DOCUMENT RESUME

ED 114 343 SO 008 722

AUTHOR Tuckman, Barbara; Tuckman, Howard
TITLE Toward a More Effective Economic Principles Class: The Florida State University Experience.
INSTITUTION Joint Council on Economic Education, New York, N.Y.
PUB DATE 75
NOTE 74p.
AVAILABLE FROM Joint Council on Economic Education, 1212 Avenue of the Americas, New York, New York 10036 ($2.00, 20 percent discount on 10 or more, paper)
JOURNAL CIT The Journal of Economic Education; Special Issue n3 Spr 1975

EDRS PRICE MF-$0.76 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS Course Descriptions; Course Evaluation; Course Organization; Curriculum Guides; *Economic Education; *Economics; *Educational Research; Higher Education; *Instructional Improvement; *Social Sciences; Student Evaluation; Student Motivation; Student Role; Teaching Techniques

ABSTRACT

This special issue explores alternative approaches to teaching the college introductory economics course. Using insights gained from learning theory, suggestions from the Joint Council on Economic Education, and trial and error, several faculty members at the Florida State University experimented with various techniques and approaches designed to improve introductory economics. This journal describes the information gained from their experience. It also provides detailed course outlines which will enable college teachers to present macro- and microeconomics courses such as the ones described. (Author/RM)

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THE JOURNAL OF ECONOMIC EDUCATION

SPRING 1975 Special Issue No. 3

ED114343

SO 008 722

Toward a More Effective Economic Principles Class

The Florida State University Experience

Barbara and Howard Tuckman
Florida State University

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The Journal of Economic Education appears semi-annually in the Fall and Spring, and is published by the Joint Council on Economic Education in cooperation with the Advisory Committee of the American Economic Association. Subscriptions are $4.00 a year. Single copies, $2.00.

All editorial correspondence and manuscripts should be sent to the Managing Editor, George G. Dawson, *Journal of Economic Education,* 1212 Avenue of the Americas, New York, New York 10036. Style instructions for guidance in preparing manuscripts in acceptable form will be provided upon request to the Managing Editor.

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THE JOURNAL OF ECONOMIC EDUCATION

To promote the teaching and learning of economics in colleges, junior colleges and high schools by sharing knowledge of economic education.

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Foreword

Several years ago the Joint Council—in cooperation with the American Economic Association's Committee on Economic Education—undertook a project to explore alternative approaches to teaching the college introductory economics course.

Although dissatisfaction with the introductory course has a long history, it was not the purpose of our project to come up with "the" introductory course. Rather, our goals were to develop alternative approaches that overburdened professors in the two- and four-year colleges might find more useful than their current offerings and to encourage others to improve and expand upon the Joint Council's efforts.

The following course syllabus is only one of several that the Joint Council will publish in the coming months. The Council is grateful to all those who participated in the project, and to The American Bankers Association and the Alfred P. Sloan Foundation for their generous support.

Arthur L. Welsh

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Toward a More Effective Economic Principles Class

Barbara and Howard Tuckman

Using insights gained from learning theory, suggestions from the Joint Council on Economic Education, and considerable trial and error, several faculty members at the Florida State University experimented with various approaches designed to improve the introductory economics course. This paper describes the information gained from their experiences. It also provides a detailed appendix which will enable the reader to present a macro and micro course such as the ones discussed below.

The Institutional Setting

About 2,000 students enrolled in the introductory economic principles course at FSU in the 1973-74 academic year. Of this number about 1,050 continued on to take the second two courses in the introductory sequence. The introductory course provides an historical introduction to economic thought: Ideas and economic systems of earlier civilizations are discussed and compared to those in the modern world. Unfortunately, the content of this course tends to vary according to who teaches it and it has been subject to criticism from both faculty and students. Thus, the department is considering replacing it with one dealing with current economic problems. Course two deals with the national income accounts, national income and monetary models, and macroeconomic policy. This is taught by several instructors each following his (or her) own course outline and devising his (or her) own tests. Course three examines supply and demand, economic costs, imperfect markets, and microproblems. Like the other courses in the introductory sequence, it does not have a standardized course outline nor a common examination procedure. It utilizes the same text as the macro course.

In addition to the three introductory courses the department also has two other offerings for noneconomics majors. One provides a humanistic overview of economics and is especially tailored to the interests of social welfare students; the other offers a nonrigorous approach to economic analysis for students in the education school. Both are for terminal students and the faculty who teaches them often select a textbook different from that used in the introductory sequence. A course in radical economics is also available to those completing the principles sequence. Participants in this class examine the several historical schools from which conventional theory emerged and develop alternatives to the neoclassical paradigm.

Because of the large number of students taking the first three courses and the unavailability of large lecture halls, the introductory program commands a sub-

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stantial amount of the department's manpower. In the 1973-74 academic year, for example, faculty taught 19 principles sections. Another 14 sections were taught by newly trained graduate instructors. In addition, 23 sections were staffed by teaching assistants (T.A.'s) who taught discussion sections and aiding in grading the students. As a result, about 25 percent of the faculty and 55 percent of the funded graduate students in the department were directly involved in teaching economic principles.

The Experimental Program.

The experimental program emerged as a result of several faculty members' desire to see the quality of instruction at the principles level improved. A number of projects were begun in 1970 and subsequent years which were designed to test alternative ways of teaching basic economic concepts to students. Five types of improvements were actively considered by the experimenters: (1) revision of course organization and structure; (2) adoption of new methods for gaining student interest and motivation; (3) design of procedures to improve faculty-teaching assistant interaction; (4) establishment and validation of better testing and course evaluation procedures; and (5) integration of graduate instructors into the principles sequence.

Course Organization and Structure

Studies of student learning conducted by educational researchers and psychologists highlight the importance of goal-directed activity to both the faculty member and the student. Thus, a first step in our design of the experimental macroeconomics course was to establish goals for each lecture. This involved the identification of the three to four key concepts which were to be discussed in each class. Appendix I shows the memoranda and course outline which students participating in the macroeconomic principles class received. Each lecture has a topic and a number of subpoints. Since these are listed directly on the outline, both instructor and student are aware of what the lecture should cover.

Discussions among the faculty revealed the importance of an instructor's beginning each lecture with interesting materials. In the experimental classes, the first five minutes of the lecture were used to arouse student interest either through humor or by a discussion of a recent economic event. In the next few minutes the instructor reviewed the material covered in the last class. The main points of the lecture were then outlined and each was developed using personal stories, factual materials, and graphical analysis. Wherever possible, students were asked to volunteer information during the class. Each lecture ended with a discussion of what the next lecture would cover. Questions were encouraged at the beginning of the class hour and during the lecture. On those days when the class seemed unresponsive, the instructor attempted to stimulate interest through class participation in the development of key concepts.

In both the micro and macro courses, our goal was to present an interesting and fairly complete introductory principles course based on the existing subject matter of economics; it was not to design a radical alternative or a critique of existing theory. Such alternatives are extremely important and we believe that they should be available to undergraduate students. At Florida State, they may currently be obtained in the radical economics course. In rethinking the introductory course, existing outlines were examined and compared to the materials covered in the major textbooks and with what the faculty felt should be emphasized. The final product represented a blending of the major theoretical concepts which are essential to an understanding of conventional economics with judiciously chosen real world applications.

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In-depth discussions with students enrolled in both the macro and micro classes revealed the potential importance of the course outline as a guide to proper learning. Using this information we revised the outlines so that they would be more useful as a study aid. Basic core areas were defined for each course. In macroeconomics (see Appendix I) these were aggregate measures of economic activity, the national income models, the role of money, and macropolicy: in micro (see Appendix II), they were elementary demand and supply, noncompetitive markets, and microeconomic policy applications. Each core area was then broken down into subtopics and under each, a number of key issues were raised for students to consider.

In the macroeconomics course, for example, the second core (national income) covers several subjects including: the classical theory of income and employment, the simple national income model and its components, and extensions of the national income model (see pp. 25-26). The discussion of the classical theory involves several key concepts including: Say's law, the processes which move the economy to full employment, and the relationship of labor market equilibrium to equilibrium in the product market. These are listed directly on the course outline so that the student knows what the instructor is going to cover. If he (or she) gets confused about what the lecture covered, the outline provides a basis for further discussions with either the T.A. or the instructor. It also enables the T.A. to coordinate discussion sections with what is covered in the lectures.

The microeconomics outline is somewhat different, emphasizing issues raised by the lecture rather than content (see Appendix II). Under the noncompetitive markets area, for example, the micro course outline lists four subtopics—monopoly, monopolistic competition, oligopoly, and government intervention in business. The following issues are raised in the monopoly section:

- Why do the American people traditionally distrust big business and monopolies?
- Do some types of enterprises lend themselves to natural monopoly?
- What creates monopoly power?
- How extensive is this power in the U.S.?

The outline also notes the reading assignments for each subtopic and the dates of the lectures when these will be discussed.

Student evaluations of the micro and macro experimental courses suggest that the new procedures achieve our goals. A large percentage of the students in the macro course praised the improved course outline. Many commented on the interesting lectures, the organization of the course, and on "how well things fit together." Relatively few felt that the material was not well covered. The one complaint expressed by some students was that the courses covered too much. This was a serious problem caused, in large part, by the existence of 9-10 week quarters. There simply was not enough time to cover both theory and policy in so short a time period.

T.A.'s working in the introductory courses generally shared the enthusiasm of the undergraduate students. Most felt that the new outlines provided guidance to the students and an improved framework for the discussion sections. All agreed that it was useful to key the lectures, discussion sections, and readings to a common structure. They also felt that the lecture outlines were well received by the students. Some T.A.'s continued to follow their old procedures in teaching the discussion sections, however, and more needs to be done to improve their presentations in the future.

Faculty and graduate instructors experimenting with the new course outlines felt that the well-laid-out program offered several advantages. While substantial

effort was necessary to develop a tight set of lecture notes during the first quarter that the course was taught, this paid off in terms of reduced effort in subsequent quarters. Less time was needed to structure each lecture and discussion section, to alter the course outline when a new textbook was adopted, or to revise lecture materials to stay current with new materials. Moreover, the new outline seemed to reduce student questions concerning where a course was going or what was important in a particular set of readings. Some difficulty was encountered, however, in convincing the graduate instructors teaching macroeconomics to stay with the outline. In part this seemed to be related to a desire on their part to dazzle the students with mathematical presentations or critiques of economic theory. In part too, it represented a desire on their part to supply alternative weights to the material. Our experience suggests that teaching is a dynamic process and that an instructor may find it necessary to change emphasis from one quarter to the next. When such changes were made, instructors were encouraged to revise their outlines and exams accordingly.

Improvements in Student Motivation and Interest

How can an instructor retain the interest of his or her students? This tends to be a particularly difficult problem when students have heterogeneous interests and when they are taking economics because it is a required course. The problem is highlighted in the results of a survey taken in the spring of 1973. Three classes responded to the question of whether they would have taken economics if it had not been required. Only about 3 percent said they "certainly would" while about 30 percent responded that they "probably would." About 40 percent answered that they would not have registered for the course if it had not been required. Instructors teaching these students faced a class which needed to be convinced that economics would be a useful subject to learn.

Consider the reaction of students taking economics nonvoluntarily when they are first confronted with basic economic concepts. How many gag at trying to calculate a multiplier or throw up their hands in frustration when told that the national income model represents only one school of thought regarding the underlying structural relations that govern macro policy? Our experience suggests that many of these students leave the principles sequence believing that economists are "hung up" on graphs and abstract models. If the argument that the economist's perspective is valuable is not to fall on deaf ears, the instructor must find a way of casting the concepts in a way which makes them relevant to otherwise disinterested students.

In rethinking conventional approaches to presenting the basic materials, our goal was to retain the rigorous analysis developed in most economics textbooks. At the same time we hoped to discover more interesting ways of presenting the basic ideas in a classroom setting. A number of attention-getting devices were developed and some of these are described below. These all apply to the macroeconomics course since techniques for the micro courses are generally easier to develop and more widely practiced.

The "Council of Economic Policy" (CEP). In the first lecture of the macroeconomics course students are greeted by congratulatory telegrams from the "President" and his key advisors. After the laughter and expressions of surprise die down, the instructor explains that the goal of this course is to provide each student with an awareness of how macroeconomic concepts relate to the problems faced by economic policy-makers. The students receive a "Memorandum" containing instructions on

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what materials to read to learn about economic issues (see Appendix I). This is accompanied by a course outline (constructed as described above) with a set of readings and an employment form appointing the student to the CEP. The latter requests information on the students' past work history and is used by the T.A. to generate discussion in the discussion section.

The CEP provides a theme used to tie the course together. One usually hears murmurs of "Is this for real?" when the idea is first introduced. The reality is brought home when the students are given a memo from a rather perplexed "President" who, lacking an economics background, urgently requests information on the meaning of the GNP measure (see Appendix I, Policy Memo 1). It is reinforced by a memo from the chief economic coordinator (read in the second lecture) requesting information on why the growth rate of the U.S. has been slower than that of some other countries. Subsequent in-class memos deal with humorous stories or problems which puzzle the President and his staff and the class is invited to draft a reply to each question. Discussion section memos present applications of the materials presented in the lecture. At the end of the course each student receives a "Certificate of Appreciation" for contributing to national policy.

On a less grand level, several techniques are used to clarify specific course concepts. A number of these are provided below:

The Consumption Function: A memorandum is read to the class requesting information on the effects of a change in total spending on the economy. The instructor then asks how information can be obtained on the relationship between consumption and income. After several minutes of classroom discussion the instructor proposes a survey of the consumption habits of the class. Several income levels are suggested and each class member is requested to indicate the amount he or she would consume if that level of income were received. The results are tabulated and from these a consumption schedule is drawn. The properties of this schedule are then developed and the average and marginal propensities to consume and save calculated. This procedure has been quite successful in providing students with an insight into why graphical analysis is useful.

The Multiplier: The instructor brings a large cardboard $100 bill into class. He (or she) hands this to a member of the class and writes $100 on one side of the blackboard, recording $100 in goods received on the other side. The bill is then passed back one row where the person receiving it decides how much to save and how much to spend. A scissors is used to cut the bill down to its new value since a portion of it is saved, and a new set of transactions are recorded. When the bill reaches the back of the room the total amount spent as a result of the "exogenous" increase in spending is then totaled and a multiplier is derived. The multiplier is then related to the marginal propensities to consume and save. One measure of the success of this procedure is that less than 25 percent of the students missed the question on the multiplier in the next exam compared to the 35 to 45 percent that had missed it previously.

Differences in the National Income Account Measures: The instructor begins the lecture with a discussion of the purpose of each national income account measure. Cardboard boxes shaped to fit together in a bar diagram are shown to the class which is then asked to place each item into the appropriate bar diagram. As each box is fit into place the lecturer describes why it fits in this measure. When all the bar diagrams are completed several policy questions are asked to the class such as "Why is a sepa-

rate measure of disposable income better than simply using GNP if we are interested in analyzing the economy?" The students pursue these questions in the next discussion section. About 35 percent of the students missed at least one question on the national income accounts compared to the approximately 65 percent who missed at least one when the national income accounts were covered in a more conventional fashion.

Several attempts were made to reorganize course concepts so that they follow more logically for the students. One illustration of how this proved helpful, is given:

The National Income Approach Versus the Monetary Approach: Students in the introductory macro course often fail to understand the relationship between the national income model and the role of money as defined by the monetarist school. A few also have trouble relating money to the income determination model. After several attempts at restructuring the course outline we decided to present a discussion of the difference between the Keynesian and classical approach *prior* to presenting the national income model. Thus, a lecture was prepared comparing the two theories and their social implications. In each of the lectures which followed, the implications of the differences in the two theories were emphasized. By the time the chapters on money were introduced, the students displayed a much clearer idea of the role that money played. In the next exam, over 50 percent of the students identified all the major differences in the two theories. Over 85 percent identified two or more differences and only 9 percent completely missed all questions in this area.

The selection of an "appropriate" textbook and related materials poses problems, given the large number of competitors. While we have not yet identified ideal requirements for a text for the course, some attention has been given to the effectiveness of a programmed workbook. The final example in this section reports on our experience in this area:

The Use of a Programmed Workbook: In addition to the textbook used in the macro course, we also assigned a programmed workbook and examined student response to it over a number of quarters. The reaction was mixed. Over 80 percent of the students felt that the workbook was useful. (About 45 percent of these students claimed that it made the textbook unnecessary.) The remaining 20 percent objected to the programmed workbook citing its repetitiveness, the encyclopedic nature of the main textbook, and the extra expense they had to incur. Interestingly, about 20 percent of the students using the programmed workbook for the macro course ordered it for the micro course even though it was not assigned. Based on the above-mentioned findings, we decided to assign the programmed workbook along with the textbook. Appendix I lists the readings in the programmed workbook assigned to each lecture.

Grading and Student Evaluation

Grading procedures for the macroeconomics course allow for the students' contribution to policy. Four core exams (described below) are given during the quarter. These cover both traditional concepts and policy issues. These exams have a combined weight of 90 points. Each student also receives a grade for his or her participation in discussion section. A student's answers to the policy questions are worth 10 additional points.

Student evaluations requested at the end of the course have thus far favored the new approach. Asked their opinion of the course, between 65 and 80 percent of the students expressed their approval. The multiple-choice course evaluations are usually accompanied by written comments such as "fantastic," "good organization," "I didn't miss a lecture," "I really thought the course was relevant," "at least I can read

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the newspaper," and "I wish more courses would do something like this." About 6 percent of the students question the value of the policy memos or of the discussion sections. Another 10 to 15 percent dislike the text. Less than 1 percent express disapproval of the lecture. Since several of the experimental classes have been taught to large lecture audiences, we consider these results to be quite favorable to this type of course organization.

Table I shows the results of the evaluations of macro courses taught in the spring and fall of 1973. Three used the experimental course outline and at least some of the techniques described above while four were taught by traditional procedures. Note that in two out of three of the experimental classes the students showed a significant increase in their interest in economics. In the third course the instructor spent too much time on policy and current events so that some of his students felt that he failed to organize his course according to the outline. His ratings improved dramatically, however, in the next quarter. By way of comparison, most of the traditional courses were less successful in arousing student interest. If factors such as major, size of class, and grade point average are controlled for, the results suggest that the experimental course significantly increased student interest in economics.

Perhaps the most interesting finding reported in Table I is what happens to the proportion of students interested in economics at the beginning and end of the quarter. Previous studies suggest that students entering the introductory economics sequence with an interest in economics tend to leave with an interest, while those not interested at the beginning of the sequence remain disinterested at the end. This pattern seems to hold for the sections taught using the conventional approach. By way of comparison, however, the sections taught using the experimental approach register an increase in end of quarter interest for students *both* interested *and* disinterested at the beginning of the course.

Improvements in Faculty-Teaching Assistant Interaction

Until recently, serious problems existed in the interaction between faculty and their teaching assistants. Florida State T.A.'s frequently taught discussion sections without first receiving adequate instruction in what materials should be covered, midterm and final examinations were developed by faculty without the inclusion of questions covered in the discussion section, or T.A.'s were told to construct exams for the faculty member without the latter taking responsibility for the final product. As a result, some of our T.A.'s expressed a preference for research assignments or became embittered with their teaching experience.

Several faculty members participated in the Joint Council on Economic Education's teaching conference, held in the summer of 1973 in Bloomington, Ind. Following their return, the economics department decided to offer a three-credit course to prepare graduate students as teaching assistants. The decision was also made to allow a limited number of graduate students to teach their own courses. A formal set of lecture topics were prepared dealing with subjects such as how to write course objectives, how to give a lecture, the various ways to test, etc.; however, the graduate students urged that the new course be expanded to provide information on how a T.A. should organize a discussion section if the professor is not well organized, how to face a new class, and how to write an exam. Faculty members participating in the course included the department chairman, graduate student director and two of the faculty who were teaching experimental courses. A faculty member from the FSU Division of Instructional Research was also brought in to present suggestions on how to prepare an effective lecture.

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Table 1
Proportion of Students Expressing an Interest in Economics by Type of Response, Type of Course, and Time When the Question Was Asked

Proportion of Students Responding That Their Present Interest Was	Experimental Organization and Techniques			Traditional Course Organization and Teaching Techniques			
	Instructor A	Instructor B	Instructor C	Instructor D	Instructor D_1	Instructor E	Instructor F
I. *Very High*							
Pre	9	3	7	8	4	4	7
Post	19	29	11	8	7	4	12
Change	+10	+26	+4	—	+3	—	+5
II. *High*							
Pre	30	52	30	28	17	31	33
Post	45	39	27	26	23	36	40
Change	+15	−3	−3	−2	+6	+5	+7
III. *Average*							
Pre	44	50	53	50	55	47	56
Post	30	29	43	49	35	38	36
Change	−14	−21	−10	−1	−20	−9	−20
IV. *Low*							
Pre	14	3	7	12	14	11	5
Post	4	2	16	13	27	11	6
Change	−10	−1	+9	+1	+13	—	+1
V. *Very Low*							
Pre	3	2	2	2	10	7	0
Post	2	1	2	4	8	11	6
Change	−1	−1	0	+2	−2	+4	+6

Source: Student questionnaires distributed at the beginning and end of course offered in the spring and fall of 1973. A more detailed description of these data may be found in Tuckman [1]. Note that Instructor D taught two different sections of the principles course in the spring quarter.

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In the experimental sections an effort was made to include the students in the planning and development of the new course outline. Teaching assistants contributed questions for quizzes, midterms and finals; they helped to write the policy memos; and they critiqued the course outlines. In the micro course, they also helped to develop and administer the test bank described in the next section and recommended issues for inclusion in the course outline. A concerted effort was made to include T.A.'s in the planning and design of the experimental courses. This resulted in greater T.A. interest and involvement.

The department also implemented an experimental rating system for T.A.'s. Undergraduates taking the principles classes were asked to rate their T.A.'s on a series of qualities such as "interest in students," "ability to explain difficult concepts," "organization of discussion sections," etc. The rating compiled by the graduate director showed that the graduate students teaching the experimental sections ranked among the highest in the department.

Testing and Course Evaluation

Testing and evaluation pose a problem for many economics departments. Someone successfully completing a Ph.D. has usually had ample experience in taking exams. It is hardly surprising then that most faculty feel that they are good exam writers. Unfortunately, many faculty members design exams which conform with their own past experience rather than with what researchers suggest are the best methods to use. Thus, students tend to be evaluated by a variety of testing procedures only some of which actually measure what the instructor believes he or she is measuring. After careful study of the alternatives, several new approaches to testing students have been implemented in both the micro and macro experimental courses. These include the utilization of content-weighted examinations, development and testing of reliable multiple-choice questions, and construction of new evaluation instruments.

Content-Weighted Core Examinations: A fundamental principle of the examination program is that the questions on each exam should be chosen so as to reflect the weight given to the material *actually* covered in the course. It makes little sense to devote two weeks to a topic and then ask one question about it on an exam. In both the macro and micro courses, the outlines for each lecture state the content which the student is responsible for. Together with the reading assignments and the lecture outline, the course outline lays out a study guide which provides a set of implicit weights for each area covered. The questions contained on each exam are chosen so as to reflect these weights directly in the construction of the exam. Thus, the students can be tested to determine how well they grasped the knowledge which the instructor conveyed during the course of the quarter.

Outline 1 presents the topics included in the computer test bank for the macro course. The numbers on the left-hand side represent the number of questions drawn from a particular area. Note, for example, that Core I has a weight of 20 points and that one question on economic scarcity appears on the Core I exam while several questions are raised about the definition of GNP. A copy of this weighting scheme is distributed to students to aid them in their study efforts. We have been especially pleased with the positive reaction to this procedure.

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Outline 1

Weights used in Constructing Macroeconomics Core Exams

20	*Core I — Introduction and National Income Accounts*
1	Macroeconomics, what it is, methodology, relation to micro, circular flow concept
1	Production possibilities curve
1	The problems of scarcity, limited technology, etc.
6	Definitions of national income accounts, GNP, NNP, investment: gross vs. net, uses of the accts.
1	What is a price index, how is it constructed, what are its limitations.
1	Who suffers from inflation
1	Interpreting a change in the cost of living
3	Real vs. money GNP—definition, why the difference is important, how used?
5	What GNP includes, excludes, issues.
25	*Core II — The National Income Model*
2	Keynes vs. classical economists (1) flexibility of prices, (2) downward rigidity of wages, (3) S-I equilibrium, (4) role of interest
1	Theories of consumption
1	Determinants of consumption
1	The consumption function
1	Relation of consumption and saving
1	The MPC, MPS, APC, APS
1	Determinants of investment
1	Savings = investment, ex post
1	What is not investment (i.e., buying a stock)
1	The investment multiplier
1	Calculating the multiplier
1	The effect, on equilibrium, of a change in consumption
1	The effect, on equilibrium, of a change in investment
1	Endogenous vs. exogenous investment
1	Descriptions of what happens if aggregate demand exceeds aggregate supply
1	Relationship between full-employment equilibrium and S=D equilibrium
1	Inflationary and output gaps
1	Role of government in model
3	Tools of fiscal policy
1	Expenditures or tax changes
1	Automatic stabilizers
1	The balanced budget multiplier
25	*Core III — The Money Sector and Its Relation to the National Income Model*
1	Characteristics of money (viz., medium of exchange)
1	Money vs. near money
1	What form money is held in (viz., checking, savings, etc.)
2	The sources of money demand (speculative)
1	Difference between commercial banks and savings and loans

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1	Definition of demand deposit, fractional reserve system
1	The money multiplier—definition
1	The money multiplier—how it is interpreted
2	Examples of how money supply can be increased
4	Tools of the Federal Reserve System
2	Definition of money policy, how it differs from fiscal policy
1	Money policy by discretion vs. money policy by rule
1	Questions on what is not fiscal policy
1	Monetarists' attack on fiscal policy
2	Questions on when money policy should be used
1	Relation of value of money to price level
2	Effect of shift in money supply

20 Core IV — Macroeconomic Policy

2	When should fiscal policy be used?
3	When should monetary policy be used?
1	Kinds and sources of inflation
1	The Phillips curve trade-off
1	Objectives of macro policy
1	Why are wage-price guidelines, freezes, etc., needed?
3	Types of fiscal and monetary policy
1	Economic growth in different countries
3	Balanced budget questions
1	Federal debt
1	Policies to accelerate growth in U.S.
1	Distribution of income

A similar weighting scheme was constructed for the microeconomics course, based on the course outline shown in Appendix II* (see page 50). Note that the micro core consists of three parts, each with a weight of 33 points. The weights on the left once again indicate the number of questions on the exam drawn from each area.

Outline 2

Weights Used in Constructing Microeconomics Core Exams

33 Core I — Elementary Demand and Supply

	1. Preliminary Concepts
2	a. Models, equilibrium and ceteris paribus
2	b. Scarcity, trade-offs
2	c. The production possibilities curve and the private enterprise system
	2. Demand: Focus on the Household
3	a. The individual's demand curve for a commodity
2	b. The market demand curve for a commodity
4	c. The elasticity of demand
	3. Supply: The Focus on the Firm
3	a. Individual firm and market supply curves

*The authors are grateful to Philip Sorensen for providing us with these weights.

3 b. The elasticity of supply

4. The Determination of Market Price

1 a. The adjustment to equilibrium

5. The Costs of Producing Commodities

2 a. Explicit and implicit costs

2 b. Types of cost curves

6. The Determination of Price Under Perfect Competition

1 a. The assumption of profit maximization

3 b. Rules of profit maximization under perfect competition

3 c. Market equilibrium, short and long run adjustments under perfect competition

33 Core II — Noncompetitive Markets

1. Monopoly

2 a. Factors creating monopoly power

2 b. Natural monopolies

2 c. The extent of monopoly in the U.S. economy

2. Monopolistic Competition (Limited Monopoly)

2 a. Product differentiation

2 b. Advertising and other nonprice competition

2 c. Excess capacity as a cost of imperfect competition

3. Oligopoly

4 a. Forms of oligopoly structure

4 b. Oligopoly behavior, price leadership, parallel pricing

3 c. Concentration ratios in U.S. industry

4. Government Intervention in Business Affairs

2 a. Antitrust policy

2 b. The nature of mergers and the reasons for the merger movement

2 c. Regulation by administrative bodies

2 d. Comparisons of the performance of big and small firms

2 e. Noneconomic advantages of competitive industry

34 Core III — Economics and the Problems of the 1970's

1. The Distribution of Income and Wealth in the U.S.

3 a. The functional distribution of U.S. income

2 b. Distribution of wealth in the U.S.

4 c. Explanations of income distribution

2 d. Forms of discrimination affecting income payments

2. Poverty and Economic Insecurity

3 a. Description of the causes and characteristics of poverty in the U.S.

3 b. The effects of government programs to combat poverty

3. Externalities and Public Goods

2 a. Definitions of public goods

3 b. The nature of the "public interest" and conflicts with the concept of free enterprise

1 c. Government subsidies of research

4. Economics of the Environment

3 a. The internalizing of external costs

2 b. Optimal levels of pollution

1 c. Incidence of costs of pollution-control systems

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5. The Energy Crisis
2 a. Basic causes of the energy shortages
2 b. Alternatives to fossil fuels
1 c. Growth-energy-pollution relationships

Computer Test Bank: While the weighting schemes developed above are easily employed by an instructor developing an exam, they are especially useful when coupled with a computer program which randomly generates questions using these weights as selection criteria. FSU currently has two computer test banks available. One, designed for the macroeconomics course, contains over 735 questions; the other for the microeconomics course includes over 500 questions. Future plans call for an expansion of these test banks to make use of the Joint Council on Economic Education's question bank. A large supply of questions is important to insure sufficient randomness so that each examination generated by the computer is reasonably unique.

The advantages of computer testing procedures are manifold. Students are given greater flexibility in terms of when they can take an exam and the number of times they can attempt to master the materials in each core. Faculty and T.A. time is freed for instruction rather than being spent on question construction and grading. More time is available in lecture and discussion sections for teaching the materials. Problems emanating from missed quizzes and makeups of midterm and final exams are virtually eliminated. Departmental secretaries are relieved of the task of typing lengthy multiple-choice questions each quarter, and the T.A.'s (or instructors) are relieved from the burdensome job of proofing each exam. Finally, to the extent that the department agrees to utilize a common test bank for all courses, the students in the principles course are subject to a set of exams graded under a comparable set of rules.

There are, however, certain disadvantages to a computerized testing procedure. It involves heavy startup costs to both the faculty member and the T.A. Each core area requires a large number of questions and reliable multiple-choice questions involve time and effort to construct and evaluate. Moreover, the system tends to place additional demands on a T.A. since several exams are offered and thus the students ask the T.A. to discuss different sets of questions. Finally, unless it is implemented directly on computer consoles, it may increase the amount of work done by T.A.'s. Because of the importance of this question, we shall briefly review the Florida State experience with computer testing.

In the initial phases of test bank development, a *separate* exam was generated for each student in the microeconomics course. When the exam was completed, it was brought to the T.A. for grading and discussion. Several hours were set aside for the student to take the exam and each exam could be taken twice, with only the higher grade being counted. This procedure provided considerable flexibility to the students but it raised serious administrative problems for the course instructor. Foremost was the additional time that had to be spent in generating and grading several hundred individual exams. It also became clear that the new testing procedure required the T.A. to spend more time answering questions from students. Finally, a substantial amount of time was required for administering and supervising exam taking. Thus, something had to be done to modify the procedures to reduce the time requirements of the program.

In the absence of funds for additional T.A.'s, we chose to reduce the number of individual exams generated each week to three. These were offered at fixed hours,

outside the normal one scheduled for class. Under this scheme, the T.A. carries three different tests drawn from the same core to an examination room each week. As the students enter the room they are randomly given a machine-generated test which they answer on a machine-gradable form, writing the exam number at the top of the page. When their exam is completed, they hand in the gradable form and can take the machine-generated test to the front of the room where the correct answers are posted, thus receiving instant feedback on their performance. The T.A. takes the gradable forms to the computer where the exams are graded and the scores are stored. Each week three new exams are generated; the student is free to decide which week to take the exam and whether to take it more than once.

Our initial experience with the new system suggested that many of the students preferred to postpone taking any of the exams until the end of the quarter, despite the fact that if they could pass them at once they received a final grade for the course without having to attend class. As a result, the T.A.'s were hard pressed to handle the end-of-the quarter rush. To limit this problem two policies were adopted. First, a schedule was drawn up showing the weeks in which each core could be taken. Students taking a test after the deadline received a five-point penalty. Second, students taking a core after the scheduled date could only take one try at the exam. These policies significantly reduced the problem of bunching and were generally well received by the students.

Students were also encouraged to take an exam more than once by the use of fixed grading targets. The range for A, B, C and D grades was announced to students in the first class. These ranges were set in a fairly liberal fashion and no limits were placed on the number of A's given out by the instructor. This led many students to strive for a high grade and it increased the popularity of the course. Graduate students working at registration reported that quite a few students asked for the course offering "the computer tests."

Further work is necessary before the test bank will save a significant amount of time over the more traditional methods. The university is currently in the process of adding CRT units for instructional purposes. These units, which provide a visual display of output, will make it possible for each student to take a unique examination in a supervised area. They will also provide instantaneous feedback to the student on test answers. The instructor and T.A. are freed of a large number of administrative responsibilities including collecting, distributing, administering and, in some cases, grading exams.

Representative examinations generated from the macro test bank are shown in Appendix I. Examinations for microeconomics are shown in Appendix II. The latter are not weighted according to the weights presented above because money has not yet become available to the department to create a test bank with questions weighted by subtopic.

Reliable Multiple-Choice Questions. Great care has been taken by both faculty and T.A.'s to insure that all the questions used on exams in the macro area are unambiguous. Each question proposed for inclusion in an exam has been screened in terms of how it fits with the goal of the instructor in teaching that particular subject matter. The screening is done by a faculty member and a graduate and undergraduate student.

The questions were also examined in relation to the level of difficulty, their relationship to other questions in the core area, etc. All questions selected from outside sources were checked for clarity, and choices such as "all of the above" or "none of the above" were eliminated.

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Each exam question for the macro test bank was also chosen with the idea of limiting the tested materials to those key concepts which the student should carry away from the course. Questions dealing with the construction of graphs, the equations in the national income model and the value of the multiplier at some future time period are kept to a bare minimum. The goal for the testing procedure is to help students define the economic ideas which the instructor thinks form the *core* rather than the *body* of economics. We hope to extend this procedure to the micro course in the near future.

By utilizing the psychometric techniques of the Division of Instructional Research over several quarters, we can develop insights as to which questions cause problems to students. Those with low reliability scores are eliminated from further use. Questions receiving low to moderate scores are utilized again and then re-evaluated. By this procedure fairly reliable test instruments have been developed over the past two years in the macroeconomics course.

Evaluation of Student Performance in Economics Courses

Student grades are not the sole nor perhaps even the best indicator of the effectiveness of an economic principles program. In fact, faculty who use a single measure may have the undesired effect of causing an increase in "measured" rather than "desired" output. In another paper we reported on an experiment to measure student performance in several traditional and experimental macroeconomics courses using five different measures—A modified version of the Test of Understanding in College Economics (TUCE), a twenty-question test of economic attitudes (A-S), a final grade, a five-point scale of interest in economics ranging from very high to very low, and a question dealing with student willingness to take another course in economics.* For each measure, data were obtained from students in the tested macroeconomics courses. Pre and post course responses permit an examination of the change in student attitudes during the quarter. Performance on the TUCE and AS exams was also carefully studied.

At the beginning of the macroeconomics course students were asked to comment on what they had learned in the *last* economics course they had taken. Four choices were available on both questions: (1) understand significantly more than when I took the course before; (2) understand a bit more; (3) no change in my understanding; (4) don't know. The student responses for the same sections discussed in Table 1 are in Table 2.

Table 2 suggests a substantial increase in student understanding in almost all sections of the macro course. Apparently, the students felt that they learned more in this course than in its predecessor, as indicated by a comparison of the "last course" and "this course" columns. Note too, that students in 2 out of 3 of the experimental courses scored significantly higher in the first category than did those in courses taught by more traditional methods. Surprisingly, when the figures in this table are compared to student scores on the TUCE and AS exams they do not appear to be highly correlated. This may suggest that the criteria used by students to judge how much they have learned differ from those utilized by researchers in economic education.

Course evaluations measuring change in student interest and attitudes provide a valuable supplement to pure learning measures. They can be used to pinpoint the

*Howard Tuckman, "Teacher Effectiveness and Student Performance," *Journal of Economic Education* (forthcoming).

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Table 2
What Students Learned in Their Last and Current Courses in Economics

Proportions of Students Responding that They	Experimental Organization and Techniques						Traditional Course Organization and Training Techniques							
	Instructor A		Instructor B		Instructor C		Instructor D		Instructor D_1		Instructor E		Instructor F	
	Last Course	This Course	Last Course	This Course	Last Course	This Course	Last Course	This Course	Last Course	This Course	Last Course	This Course	Last Course	This Course
1. Understood significantly more than before taking the course	34	78	44	86	30	36	22	43	22	51	53	66	49	69
2. Understood a little bit more	48	17	39	11	56	61	28	48	35	47	32	28	42	28
3. Felt their understanding of economics had not changed	6	5	6	0	0	2	4	7	4	2	4	4	2	1

effects of a new textbook, teaching method, or course outline. The evaluations also provide feedback to the department on how well its introductory sequence is doing in capturing and retaining student interest. For these reasons we shall continue to include pre- and postcourse questions in our testing program as a useful supplement to other evaluation criteria.

Graduate Students as Instructors[*]

Recently, the Florida State Economics Department received an invitation to participate in the Joint Council on Economic Education program designed to train graduate students to become effective teachers. An initial teaching workshop was offered to graduate students in the fall of 1973 and has been discussed above. This workshop was a prototype for a Seminar on Teaching Methods which will be taught again in the future. The course emphasizes the writing of class objectives, lecture techniques, testing, and discussion methods. Our initial experience suggested that presentation of this method in a traditional seminar situation was helpful but unsatisfactory given high graduate student expectations.

In the spring of 1974 the department began redesigning the Seminar on Teaching Methods so that the content could be taught through film and tape recordings of actual lecture and discussion situations. In addition, film and tape recordings were employed in order to facilitate graduate instructor awareness of teaching effectiveness. These recordings were critiqued by an independent graduate student sensitive to the methods of giving constructive criticism. Our initial experiments with this program have revealed two important insights. First, student instructors were very aware of the camera's presence in the classroom and claimed it noticeably affected their performance. This can probably be overcome by repeated taping and is therefore not a serious problem. A second difficulty is that the process of obtaining equipment from the university media center is an unreliable one. Since classrooms are used each hour, little time is available to set up and take down equipment which heightens the disruptive nature of the taping process. Neither graduate instructor nor faculty are likely to subject themselves repeatedly to such a disruptive process.

As a consequence, the department has begun plans to create a learning laboratory in which equipment will be set up at all times. The proposed facility will have multiple cameras and microphones so group discussions may be taped adequately. Several departments in the College of Social Sciences have expressed interest in this idea which can only be realized with their cooperation. Adequate equipment in a room large enough to hold our principles discussion groups is imperative for our concept of the Seminar in Teaching Methods.

Adoption of Florida State Courses by Other Departments

Included in the two appendices to this paper are the materials used in the introductory courses at Florida State. Appendix I begins with the memo students are given upon entering class for the first time. This indicates the experimental nature of the course and lays out the ground rules. The second memo contains a reading list for the macroeconomics course, showing the topics and subtopics covered in each lecture. Note that the outline is set up for a 10-11 week quarter. By including the discussion section topics directly in lectures, an instructor could easily use the materials for a 15-week course. The CEP employment form and eleven policy memos follow the second memo. These indicate the problems which students were responsi-

[*] The authors would like to thank David Rasmussen for helping to prepare this section.

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ble for researching and presenting in discussion section. The instructions for taking the core exams, and the exams themselves follow. The final item is a "Certificate of Appreciation" given to students upon completion of the course. Appendix II presents the microeconomics materials. These include the combined course outline and reading list, instructions for taking the core examinations, and sample exams. These materials should be sufficient to enable the interested reader to duplicate our courses.

It is important to note that the success of the experimental sequence does not rest solely on an improved organization of the material but also on the enthusiasm of those participating in the program. The students in the program knew that they were involved in an experiment and their comments on the faculty evaluation forms reflected their interest in seeing the program improved. A large part of the success of the program may have been due to the fact that the professors and T.A.'s participating in the program were conscientious, hard working, and responsive to student needs. Comments by the students both during and after the program reflected their delight in seeing a personal interest taken in their performance. It would be a mistake simply to apply the material in the Appendix without further refinements to meet the needs of the students who are being taught. Change is a fact of life in our profession—change in economic conditions, in policy issues, and in conventional economic theories. A dynamic principles course will reflect these changes by constant revision and re-definition of the weights given to the material. Likewise, it would be a mistake to expect the programmed materials to substitute for instructor enthusiasm. The ideas represented here represent a departure rather than an ending point for the teaching of economic concepts.

Future Changes in the Principles Program

Several innovative changes in the principles program are currently under consideration. Perhaps the most promising involves a set of course options for students registering in the introductory courses. Under this program, students could select one of three options at registration. The first would involve a tutorial system in which the student is given a comprehensive course outline and left free to learn the material on his or her own. A tutor would be assigned to oversee the student's progress and to answer questions. The feasibility of this approach depends on our ability to refine the macro and micro computer test banks further. A second option is for a student to enter a small section of about 35 students taught by a graduate instructor. Two such sections would be offered for the macro and micro courses at least once every other quarter and entry would be on a first come-first served basis. The third choice involves registration for a large lecture offering discussion sections. Exams will be given using the computer test bank and students could take them at any time during the quarter.

We are also exploring the possibility of putting at least one complete set of taped lectures on reserve at the library. This would enable students to attend only those live lectures that they wished to. It would also offer a slow learner the opportunity to listen to a lecture on a specific topic as often as he or she wished.

The experimental program at FSU holds great promise for improving the quality of instruction provided for our undergraduate students. In the past the program has been carried along largely as a result of the interest of a few members of the faculty. It is our hope that future efforts will be directed to involving a larger number of faculty members and toward incorporating a wider variety of innovative teaching techniques into the program. We have just begun to explore the potential uses of new techniques for aiding students to learn difficult materials. Much more work remains to be done.

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Appendix I

From: Department of Economics
To: Members of Council of Economic Policy (CEP)
Subject: Economic Problems and Policies (Economics 202)

In the last few years the Department of Economics has tried to improve its basic courses to make them more useful to students not planning to major in economics. With food prices continuing to rise to record levels, college students finding that jobs are increasingly scarce, and foreign tourists discovering the impact of devaluation on the purchasing power of the dollar, it is our belief that this course (and the one that follows) has a great deal to offer the student in understanding his environment. The outline and the lecture plan for this course are designed to give the student both an appreciation of the economic forces which underlie the operation of the economic system and an exposure to the critical economic problems faced by society.

At the beginning of the quarter you will be asked to fill out an employment form appointing you as a member of the Council of Economic Policy (CEP). During the quarter you will be asked to attend a lecture twice a week. The material presented in the lecture will deal primarily with basic concepts. The third hour of each week will be devoted to an application of the concepts developed in lecture to specific problems. Each week the President will ask his Council of Economic Policy (CEP) to supply him with information on a pressing national problem. The answers you provide will be an input into his decision process and into your final grade.

To help you to understand the basic concepts we have assigned the following texts:

—Gill: *Economics**

—Attiyeh, Lumsden, Bach: *Macroeconomics: A Programmed Book*

To help you in using these materials we have linked the readings to the lectures. An outline of each lecture and the relevant readings are given below. If you have any questions regarding the readings, please feel free to raise them with your instructor.

The approach which we shall use this quarter is experimental and we would welcome your suggestions for improvement. As members of CEP, your advice will be given great weight. We sincerely hope that by the end of the quarter you will have gained an insight into some of the economic problems of the day!

From: Department of Economics
To: Members of Council of Economic Policy
Subject: Preparatory Readings for your role as a Presidential Advisor

To aid you in your exploration of macroeconomic issues, we have prepared a series of lectures and independent readings. You are free to learn the course materials at your own pace, although penalties are imposed if you fail to take the four exams

*During the past quarter, the course was taught using Spencer's textbook, *Contemporary Economics*.

within the acceptable time periods. The content of this course is divided into four core areas: the national income accounts, the national income model, the role of money, and macroeconomic policy applications. Within each core area, the material is broken down into certain key concepts which are listed as subpoints on the blackboard. The lecture will then be structured so that each of the points is covered in sequence. If you do not understand a particular point, feel free to raise it with either your instructor or T.A. Please note that the exams are constructed in such a manner as to include questions dealing with *each* of the subpoints shown on this outline. Thus, in preparing for an exam, it is useful to use the topics and subpoints as a basis for organizing your study efforts.

CORE 1: The National Income Accounts

Lecture 1-2: Topic: *An Introduction to the Economic System*
Subpoints: (1) What is macroeconomics?
(2) What do we mean by an economy?
(3) What is a model?
(4) The circular flow diagram as a simple model
Readings: (1) Gill, *Economics*, Chapters 1, 8
(2) Attiyeh, Lumsden, Bach, *Macroeconomics*, Chapter 1

Policy Section 1: Topic: *Measuring Macroeconomic Activity*
Materials: Policy Memo 1

Lecture 3: Topic: *The Meaning and Measurement of Price Changes*
Subpoints: (1) What role do prices play?
(2) How do prices change through time?
(3) The meaning of relative prices
Readings: (1) ALB, Chapters 2, 3

Lecture 4: Topic: *Measures of Aggregate Economic Activity*
Subpoints: (1) The several measures, GNP, NNP, Personal Income, Personal Disposable Income
(2) Content of each measure
(3) Use of each measure
(4) Limitations of each measure
Readings: (1) Gill: Appendix to Chapter 8

Policy Section 2: Topic: *Limitations of the GNP Measure*
Subpoints: (1) Housewives' services
(2) Double-counting
(3) Treatment of pollution
(4) Real versus nominal GNP
Readings: (1) Policy Memo 2

Lecture 5: Topic: *Relation Between National Income Accounts and Aggregate Demand and Supply*
Subpoints: (1) Distinction between aggregate demand and aggregate supply
(2) Conventional theory versus current experience
(3) Use of diagrammatic model of aggregate supply and aggregate demand
(4) The underemployment and inflationary gaps

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Readings: (1) News clippings—to be distributed (These vary from one quarter to the next).

Note: This marks the completion of the Core I materials. Be sure that you are clear on the major points covered in this section of the course before taking the Core I exam.

CORE II: The National Income Model

Lecture 6: Topic: *The Classical Theory of Income and Employment*
Subpoints: (1) Say's Law
(2) What processes move the economy to full employment?
(3) Equilibrium in the labor market
(4) Critique
Readings: (1) Gill: Chapter 7

Policy Section 3: Topic: *Analysis of Performance of the Economy*
Readings: Policy Memo 3

Lecture 7: Topic: *An Introduction to the National Income Model*
Subpoints: (1) The relationship between income and expenditure
(2) Tables versus graphs—the role of each
(3) The marginal propensities to consume and save
(4) The average propensities to consume and save
(5) Examples
Readings: (1) ALB, Chapters 4, 5

Lecture 8: Topic: *Understanding the National Income Model*
Subpoints: (1) Theories about what determines consumption
(2) Effects of changes in the determinants of consumption on the simple national income diagram
(3) Examples of what affects consumption based on past history
(4) Theories of investment determinants
(5) Effects of investment in the national income diagram
Readings: (1) ALB, Chapter 6
(2) Gill, Chapter 9

Policy Section 4: Topic: *How Can We Determine the Equilibrium Level of National Income*
Subpoints: (1) Review of determinants of consumption and investment
(2) Discussion of equilibrium
(3) Numerical example
Readings: (1) Policy Memo 4

Lecture 9: Topic: *Extensions of the National Income Model*
Subpoints: (1) The marginal efficiency of investment
(2) Endogenous vs induced investment
(3) The savings-investment equilibrium

(4) Measured vs. planned savings and investment

Readings: (1) ALB, Chapter 7

Lecture 10: Topic: *Extensions of the National Income Model*

Subpoints: (1) The multiplier and its meaning
(2) The multiplier on the national income diagram
(3) Savings, investment, and the paradox of thrift
(4) Marginal propensity to consume and the multiplier

Readings: (1) ALB, Chapter 8
(2) Gill, Chapter 10

Policy Section 5: Topic: *Numerical Examples of the Multiplier and Policy Applications*

Subpoints: (1) Case-study of multiplier
(2) How the multiplier is derived
(3) The consumption multiplier
(4) The investment multiplier
(5) Applications to policy

Readings: (1) Policy Memo 5

Lecture 11: Topic: *A Model Including the Government Sector*

Subpoints: (1) Taxes as an offset to consumption and investment
(2) Expenditures as an increase in consumption and investment
(3) Definition of fiscal policy
(4) Example of how government enters the model

Readings: (1) Gill, Chapter 10, Appendix

Lecture 12: Topic: *Extensions of the Revised Model*

Subpoints: (1) The multiplier for taxes
(2) The multiplier for expenditures
(3) The balanced-budget multiplier
(4) Uses of fiscal policy
(5) The national debt

Readings: (1) News clipping

Policy Section 6: Topic: *Case Study in Economic Stabilization*

Subpoints: (1) Numerical example
(2) Discussion of types of fiscal policy
(3) Pros and cons of various fiscal policy tools
(4) Limitations of fiscal policy

Readings: (1) Policy Memo 6

Note: This marks the completion of the Core II materials. You should now be prepared to take the Core II examination.

CORE III: The Role of Money

Lecture 13: Topic: *The Function of Money*

Subpoints: (1) What role does money serve?
(2) What is money?
(3) Near monies
(4) Does the amount of money in circulation affect

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the economic system?
Readings: (1) Gill, Chapter 11
(2) ALB, Chapter 9

Lecture 14: Topic: *Determinants of Money Supply and Demand*
Subpoints: (1) The three motives for holding money
(2) The supply of money
(3) Equilibrium in the money-market
(4) Examples of what causes changes in the demand for and supply of money
Readings: (1) Gill, Chapter 11, Appendix

Policy Section 7: Topic: *Example of How Changes Can be Accomplished in the Money Market*
Subpoints: (1) Review of the money-market
(2) Case study
(3) Discussion of the recent money market situation
Readings: (1) Policy Memo 7

Lecture 15: Topic: *The Process of Money Creation*
Subpoints: (1) The role of commercial banks
(2) The money multiplier for a single bank
(3) The money multiplier for the entire system
Readings: (1) Gill, pp. 305-331

Lecture 16: Topic: *Money Policy and Its Importance*
Subpoints: (1) The role of the Federal Reserve
(2) Definition of money policy
(3) Tools of the Fed
Readings: (1) News clipping—to be distributed

Policy Section 8: Topic: *Money Policy Versus Fiscal Policy*
Subpoints: (1) Differences in money and fiscal policy
(2) Pros and cons of money and fiscal policy
(3) Examples of money and fiscal policy
Readings: (1) Policy Memo 8

Lecture 17: Topic: *The Current Debate Between Keynesians and Classical Economists*
Subpoints: (1) Does fiscal policy really work?
(2) Money policy and prices
(3) The lag in money policy
(4) Recent history of the economy
Readings: (1) News clipping

Note: This marks the completion of the Core III materials. You should now make preparations to take the Core III examination.

CORE IV: Macroeconomic Policy Applications

Lecture 18: Topic: *The Economics of Inflation*
Subpoints: (1) What is inflation?
(2) Types of inflation
(3) The recent history of inflation

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(4) Tools for controlling inflation

Readings: (1) Gill, Chapter 17

Policy Section 9: Topic: *The Role of Wage and Price Controls*

Subpoints: (1) The relation between inflation and unemployment
(2) Is there a Phillips curve?
(3) Wage-price guidelines
(4) Wage-price controls

Readings: (1) Policy Memo 9

Lecture 19: Topic: *Trade-offs for Macro Policy Planners*

Subpoints: (1) Inflation and unemployment
(2) Cycles and the income distribution
(3) Economic growth and inflation

Readings: (1) Gill, pp. 647-663.

Lecture 20: Topic: *The American Income Distribution*

(1) What is an income distribution?
(2) What are the sources of income in the U.S.?
(3) The difference between income and wealth
(4) Problems in measuring income

Readings: (1) Tuckman, *The Economics of the Rich*, Chapters 1, 2, 3

Policy Section 10: Topic: *Determining Macroeconomic Policy*

Subpoints: (1) Sources of the current inflation
(2) Alternative policies for controlling inflation
(3) Effect of alternative policies on macroeconomic goals

Readings: (1) Policy Memo 10

Lecture 21: Topic: *Economic Growth: Pros and Cons*

Subpoints: (1) Defining economic growth
(2) The benefits and costs of growth
(3) Problems with current measures of growth
(4) The world economy

Readings: (1) News clipping—to be distributed

Lecture 22: Topic: *The Future of the Economic System*

Subpoints: (1) The world economy
(2) Differences in the goals of various countries
(3) Problems in implementing single country fiscal and monetary policies
(4) The importance of scarcity

Readings: (1) News clipping

Policy Section 11: Topic: *Improving the Distribution of Income*

(1) What causes inequality?
(2) What policies can the government follow?
(3) Recession and economic policy

Readings: (1) Tuckman, Chapter 11
(2) Policy Memo 11

Note: You have now completed the material required to take the Core IV exami-

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nation. After completing the exam, be sure to pick up your certificate of appreciation from the President.

Semi-Employment Form
Council of Economic Policy (CEP)
Fall 1974

You are kindly requested to fill out this application form in preparation for your role as an advisor to the President. All information is confidential.

Name: _____

Address: _____

Telephone Number: _____

Age: _____

Class Standing: _____

Previous Courses in Economics:

Prior Jobs Related to Economics:

Major: _____

Policy Memo 1

To: Council of Economic Policy (CEP)
From: The President
Subject: Measuring Economic Activity (Policy Session #1)

I have just received from my policy advisors a memorandum recommending that the government take steps to increase the pace of economic activity. Before I can act on this advice I would like to be quite sure that I understand the implications of my actions. Please prepare a memo for me which addresses the following questions:

1. Why is gross national product a useful measure of economic activity? I fail to understand how you can measure economic actions through a single index.
2. Several of my advisors complained about the fact that the economy is producing as much as it can. What steps can the government take to expand output?
3. My advisors tell me that consumers are spending too much. Is there anything the government can do?

I would like your response to these questions as soon as possible since I must meet with Treasury Secretary Goldfinger next Monday.

Please keep your response brief!

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Policy Memo 2

To: Council of Economic Policy (CEP)
From: The President
Subject: Notes for meeting with Treasury Secretary Goldfinger

Your recent memo was received at my office yesterday. Frankly, the answers you presented confused me. This time I want some straight answers that can be used to plan our policy during the next few months. And I want you to present me the answers with a minimum of "economic rhetoric."

1. Why aren't illegal activities included in GNP? Don't they either raise (as in the case of gambling) or lower (as in the case of burglary) the nation's welfare? I used to make my own breakfast. Was my activity included? Should it be? Finally, suppose we were to take on boarders at the White House. If they were to pay rent, would this enter GNP?
2. Meat prices have risen 50% recently. And bad weather raised the price of potatoes by almost 50%. The people are furious about rising food prices but the statisticians tell me the price index is only up 20%. Are they lying or is there something I'm missing?
3. One of my advisors tells me that in the last few months GNP has increased. I'm confused because another advisor informs me that the nation's real output has declined. Please explain this discrepancy to me.
4. The Tangoese ambassador told me that his country's GNP grew by more than 12% a year between 1960 and 1970. Prices rose by 4% a year. Does this mean the real growth rate for his country was 16% or 8%?
5. I am somewhat confused. Precisely what does GNP include and how is it different from National Income? What does GNP tell us and what does it *not* tell us?

Policy Memo 3

To: Council of Economic Policy (CEP)
From: The President
Subject: Notes for meeting with Press Secretary Hinckley

I intend to hold a press conference soon. I am sure that columnists from the right and left will be present. The motto of this administration is candor, so I want some concise answers.

1. Columnist Walter Buckley is again attacking my policies. He claims that due to Say's Law aggregate supply must always equal aggregate demand. What does he mean by Say's Law? Has it been recently passed by Congress? Also, how can supply and demand always be equal?
2. I am slightly embarrassed about our present unemployment rate. I have heard one theory that says if we leave the economy alone full employment will be reached automatically. Is this possible? Would you recommend that I follow this line of thinking or another one and why?
3. There seems to be a problem in the economy with too many workers and not enough demand for them. Would you please explain to me how equilibrium in the labor market comes about.

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Policy Memo 4

To: Council of Economic Policy (CEP)
From: The President
Subject: National Income Equilibrium

I would like to thank all of you for your memos last week. I find this procedure so helpful that I'd like to continue for several more weeks until I can understand fully the workings of the economy. This week I want to be briefed on the following:

1. What actually determines consumption? I know that income has something to do with it, but I'd like a more detailed explanation. Are the determinants of investment the same as those for household consumption?
2. If the marginal propensity to consume increases, what does that mean? Also, how does this affect the consumption function? Please use some of that technical graphical analysis in your answer.
3. What will this increase in the MPC do to the equilibrium level of income? (Please be sure to refresh my memory about what the equilibrium level of income is.)

Policy Memo 5

To: Council of Economic Policy (CEP)
From: The President
Subject: Technical Information Needed to Prepare a Speech

1. I have heard that if the level of investment increases, problems of recession may be lessened. I was also told that an increase in investment may lead to an even greater increase in National Income. Is this true? If so, please explain why. (By the way, does the same reasoning also apply to consumption?)
2. I gather that if I can influence consumption, savings will also be affected. What is the relationship between them? Does the interest rate have any effect? (I sort of like those graphs, so please use them again.)
3. It seems to me that equilibrium is determined by aggregate demand. Do savings and investment have anything to do with equilibrium? Are we concerned with realized investment or planned investment? Also, if everyone decides to save more, won't their thriftiness bolster the economy and cause the equilibrium level of National Income to increase?

Policy Memo 6

To: Council of Economic Policy (CEP)
From: The President
Subject: This Thing Called Fiscal (or Is It Physical?) Policy

1. I have proposed a $4 billion tax surcharge to finance $4 billion worth of new public works programs to combat unemployment. What effect will this policy have on GNP? (Please be specific in your answer.) Assume an MPC of 0.8.
2. What will happen to GNP if we go ahead and spend the $4 billion and Congress does not pass my requested tax surcharge?
3. Senator Servative has suggested that we had better reduce the level of government spending because it is definitely going to rise during the "impending" recession. Why is that? Do you agree with the Senator's suggestion? (Be sure to explain why or why not.)

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Policy Memo 7

To: Council of Economic Policy
From: The President
Subject: Something We All Love—Money

I'm going to have lunch with the head of the Federal Reserve and I need some information about money.

1. How would the functions of money be affected if the value of the dollar (defined as 1 divided by the consumer price index) decreases from year to year?
2. I gather that there are several reasons for holding money, although I personally hold money in order to spend it. Just what are these reasons?
3. Please explain how equilibrium in the money market is determined. Also, what are some of the factors that cause changes in the demand and supply for money?

Policy Memo 8

To: Council of Economic Policy (CEP)
From: The President
Subject: Monetary and Fiscal Policy

I'm having another meeting with the head of the Federal Reserve. Apparently I wasn't well prepared at the last meeting I had with him so I need more information. Please answer the following questions.

1. Now that we've finally decided we're in a recession, what are the fiscal and the monetary tools for stimulating the economy? (Please list the tools and their direction of change.) Also, what are the advantages and disadvantages of monetary vs. fiscal policy? (Please be specific.)
2. Interest rates have been at very high levels. (They tell me that's one reason why new house construction and new home buying are off.) If the Fed increases the money supply and interest rates fall, what will happen to aggregate demand and why?
3. Can you give some idea about the ongoing debate between the Monetarists and the Keynesians? Just what issues are involved?

Policy Memo 9

To: Council of Economic Policy (CEP)
From: The President
Subject: The Role of Wage-Price Controls

1. Please explain the relationship between inflation and unemployment. Where does this thing called the Phillips Curve fit in, or doesn't it?
2. What is the difference between wage-price controls and wage-price guidelines? Please explain what each of them is and what their effects are (i.e., how they are designed to work).
3. What level of unemployment do you believe is unacceptable and why?

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Policy Memo 10

To: Council of Economic Policy (CEP)
From: The President
Subject: Combating Inflation

I'm having another news conference. (One pays an awful price for maintaining a policy of candor with the press!) Anyway, this inflationary situation of ours is getting out of hand and I've got to do something. Before I announce our new policy at this press conference, I'd like answers to the following questions:

1. I gather there are two different sources or causes of inflation. Please explain these and how they differ from each other.
2. What policies would you recommend for controlling these two types of inflation? What effects do these alternative policies have on macroeconomic goals? What policy would you recommend, given the current inflationary situation?
3. What does the term stagflation mean and how does it limit the application of conventional ideas?

Policy Memo 11*

To: Council of Economic Policy (CEP)
From: The President
Subject: The Income Distribution

I want to thank all of you for your excellent memos during this policy session. I think I've finally gotten a basic understanding of our economy. Since we have time for one more policy session, I'd like to concentrate on a problem that I can work on over time and that doesn't require a brushfire solution.

1. What do we mean when we talk of the "income distribution"? What are the different sources of income in the U.S.? Also, what is the difference between income and wealth?
2. What exactly causes income inequality in our country? What policies can the government follow to alleviate the inequality of income? Which ones would you recommend and why?

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*The authors would like to thank Mrs. Sidney Hicks and Dr. James Charkins for providing copies of the memos they used in teaching the macroeconomics course during the Fall of 1974.

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The Testing Procedure For Macroeconomics

1. Overview

A. *No cumulative examination*

This course is divided into four core areas:

Core I — Introduction and National Income Accounts
Core II — The National Income Model
Core III — The Money Sector and Its Relation to the National Income Model
Core IV — Macroeconomic Policy Applications

Each core will be tested in isolation from the other cores. This means that the Core II exam will not cover Core I material, etc. However, students will be expected to be able to draw from their knowledge of past cores in answering the questions on their present core. Again, *there will be no cumulative final exam.*

B. *Flexibilities*

Each student, at his or her own discretion, may be tested twice on any core or on all cores. The grade for the core will be the higher of the two grades, if the student does desire to take any core exam twice. It is also possible for a student to complete all the testing and know his or her final grade early in the course (this option is strongly discouraged, however). These flexibilities are permitted because the exams will be generated by the computer from an extensive test bank. To discourage students from postponing testing to the end of the course, a system of bonuses and penalties will be imposed.

2. Specifics

A. *Structure of the Exams*

Core I and IV consist of 20 multiple-choice questions; Core II and III have 25 questions. The weight of each core will be determined by your instructor. There is no penalty for guessing.

B. *Test Dates, Bonuses and Penalties*

Two test dates for each core will be designated by your instructor. If the student takes one exam on Core I on or before the second test date designated for Core I, is satisfied with his or her grade, and informs his or her TA to this effect, the student receives $3\frac{1}{3}$ *extra* points. The same bonus is obtained if the student takes two exams on Core I by the final test date. *If the deadline is passed, penalties will be imposed.* These are of two forms. First, the student is entitled to only 1 exam on Core I. Second, he or she will be penalized 5 points—5 points will be subtracted from his or her grade. A student may not take exams out of sequence. Core I exams must be taken before Core II exams, etc.

The same bonus and penalty scheme will apply to Core II and Core III. There is no bonus for Core IV. No exams will be administered after the second test date for Core IV.

A student who has not taken an exam in a core by the final test date for Core IV will receive a zero for that core. Medical excuses, properly documented, should be brought to the attention of your instructor on or before that date.

C. *Maximum point total to be announced by your instructor*

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D. *Administration of Exams*

Test dates and examination rooms will be announced. Upon entering the room you will receive an exam and a computer-gradable answer sheet. You must write your name on both the exam and the answer sheet. ***You must also write the number of your exam on the answer sheet.*** You will be given a piece of scratch paper to copy your answers, if you wish to check them after the exam. When you complete the exam, ***hand in both the exam and the answer sheet.*** Please do not discuss the exam until you have left the room.

Core 1 Examination—Econ 202

1. Two basic macroeconomic goals almost everyone agrees on are
   a. A perfectly equal distribution of income and low prices.
   b. High employment and stable prices.
   c. Freedom from dependence on imports and less pollution.
   d. Elimination of want and increased business profits.

2. Price indexes have been constructed for many different groups of goods and services. It is true of these indexes that
   a. They differ in level, but tend to go up or down all together.
   b. They differ both in level and direction of movement.
   c. They all move about the same, so they can be used interchangeably.
   d. They all have been fairly constant over recent decades.

3. Gross National Product (GNP) is used to measure a nation's total income because it
   a. Can be found simply by adding up all sales transactions made in the economy.
   b. Is the best available measure of the market value of all final output produced.
   c. Considers only real income and does not consider money income.
   d. Is not affected by creeping inflation.

4. When in economics we say that goods are scarce, we mean that
   a. The majority of the world has less goods than the U.S.
   b. Many goods are rare and can't easily be produced.
   c. There are not enough resources to satisfy human wants in the aggregate.
   d. Effort is required if nature is to yield her bounties for the benefit of mankind.

5. Assume that between 1962 and 1972 GNP increased from $500 billion to $1000 billion, and the implicit price deflator increased from 100 to 200. Which of the following expresses GNP for 1972 in terms of 1962 prices?
   a. $250 billion
   b. $500 billion
   c. $1000 billion
   d. $2000 billion

6. The largest source of income in national income is
   a. Corporate profits.
   b. Rental income.
   c. Wages and salaries.
   d. Dividends.

7. Of the following groups, the main losers from inflation in a full employment economy are
   a. Everyone—they all pay higher prices.
   b. Those whose incomes rise slower than the consumer price index.
   c. Those who are self-employed.
   d. No one—inflation just changes prices, not real output.

8. If corporations paid all their profits in the form of dividends, instead of retaining a portion of their profits, the immediate impact on the national income accounts would be an increase in which of the following?
   a. National income
   b. Personal income
   c. Net national product
   d. Business transfer payments

9. When an economy is operating with maximum efficiency, the production of more of commodity "A" will entail the production of less of commodity "B" because
   a. Resources are specialized and only imperfectly shiftable.
   b. Resources are limited.
   c. The structure of demand is fixed at any point in time.
   d. Material wants are insatiable.

10. GNP "in constant dollars" means
    a. Money GNP has been deflated by an index of prices.
    b. That GNP isn't changing.
    c. Inventory accumulations (which are investment in past years) have been subtracted.
    d. Inflation has been constant.

11. Which of the following is not a valid criticism of the consumer price index?
    a. It does not take changes in the quality of goods into account.
    b. It does not measure the prices of a comprehensive set of goods.
    c. It is based on a consumer survey which is several years old. Thus the market basket is dated.
    d. It is sensitive to the choice of a base year from which other years are indexed.

12. "Value added" by a steel manufacturing firm refers to
    a. Its excess profits.
    b. Its interest payments.
    c. The difference between what the firm pays for the ore and the other products that it uses and the price at which it sells the steel.
    d. The increase in steel inventories during the fiscal year.

13. Which of the following is not included in GNP?
    a. Net interest
    b. Profits
    c. Social security payments to the aged
    d. Depreciation

14. All of the following are excluded from the calculation of GNP except
    a. The purchase of 100 shares of General Motors stock.

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b. The sale of 100 shares of General Motors stock.
c. The value of a housewife's services.
d. The cost of adding a new room to an old house.

15. Which sequence best depicts U.S. GNP accounts? (The symbol ">" means greater than.)
a. Disposable income > national income > NNP > GNP
b. GNP > NNP > disposable income > national income
c. GNP > NNP > disposable income > consumption
d. National income > GNP > NNP > consumption

16. One of the problems with GNP as a comprehensive measure of production in the economy is that it
a. Excludes the rent of the home-owner, since he owns his own home.
b. Mistakenly includes such illegal activities as the sale of drugs, since they are paid for with money which is earned in the production of goods and services.
c. Excludes costs incurred in the production of goods, such as air pollution.
d. Includes the value of services performed by housewives.

17. The GNP deflator is designed
a. To adjust GNP for changes in the unemployment rate.
b. To adjust GNP so as to include the problem of "externalities."
c. To adjust GNP for changes in the price level.
d. To calculate changes in the price of food and other consumer goods.

18. Howard P. Researcher, a wealthy playboy, sells a Van Gogh painting to an art museum in Sarasota for $1 million. He originally bought it for $100,000. What happens to GNP?
a. GNP rises by $1 million.
b. GNP rises by $900,000.
c. GNP declines by $900,000.
d. There is no change in GNP.

19. That portion of corporate profits which is included in disposable income is
a. Dividends.
b. Corporate income taxes.
c. Indirect business taxes.
d. Undistributed corporate profits.

20. If GNP in country "A" increased in a year by 5 percent and that of country "B" rose by 10 percent, with price increases identical in both countries in that same year, then on the basis of this alone you may conclude
a. That economic welfare in "A" increased more than in "B."
b. That economic welfare in "B" increased more than in "A."
c. That economic welfare increased in both countries by the same rate.
d. That no precise conclusions about economic welfare are possible.

Core 2 Examination—Econ 202

1. A prolonged depression, as in the 1930's could adequately be explained by

a. Both the neoclassical and Keynesian theories.
b. Neither the neoclassical nor the Keynesian theory.
c. The Keynesian theory but not the neoclassical theory.
d. The neoclassical theory but not by the Keynesian theory.

2. Those items which are not investment goods are
   a. New stocks and bonds.
   b. New factories.
   c. New buildings.
   d. Increases in inventories.

3. Which of the following is not considered a fiscal policy action?
   a. Cutting taxes on corporate incomes
   b. Maintaining expenditures for national defense
   c. Increasing social security payments
   d. Decreasing the money supply

4. An appropriate action to take if unemployment increases is to
   a. Decrease government spending on goods and services.
   b. Decrease the money supply.
   c. Increase tax rates on personal income.
   d. Decrease the interest rate.

5. At a given level of disposable income, if consumer saving decreases, consumption must
   a. Decrease.
   b. Increase.
   c. Remain the same.
   d. Also decrease, but by a smaller amount.

6. Suppose the equilibrium level of NNP is $800 billion and the MPC is 4/5. If government wants to increase its purchases of goods and services by $16 billion without changing the equilibrium level of NNP, taxes should be
   a. Increased by $20 billion.
   b. Reduced by $16 billion.
   c. Increased by $16 billion.
   d. Reduced by $20 billion.

7. By government transfer payments we mean
   a. Redistribution of government tax monies directly to individuals without direct purchase of goods and services.
   b. Purchases of goods and services by government which are transfered to needy families.
   c. Only those government expenditures which give rise to greater output.
   d. Transfers of federal tax monies to other government units.

8. The "paradox of thrift" means that
   a. Positive saving will always mean unemployment.
   b. If changes in investment are induced by changes in GNP, than a decision on the part of people to save more might result in their actually saving less.
   c. If the economy is at full employment, a decision on the part of the people to

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save more might produce an inflationary gap.
d. Saving stimulates investment spending which tends to worsen an inflationary spiral.

9. If the MPC is 4/5, a downward shift in the consumption function by $10 billion will
a. Reduce NNP by $10 billion.
b. Reduce NNP by $50 billion.
c. Reduce NNP by $8 billion.
d. Increase NNP by $8 billion.

10. If the multiplier is 4
a. The MPC must be 1/4.
b. The MPC must be .40.
c. The MPS must be 3/4.
d. The MPS must be 1/4.

11. One of the more famous statements concerning the operation of the classical system is Say's Law. Say's Law was formulated by the French economist Jean Baptiste Say, and he concluded that "supply creates its own demand." This law withstood most attacks until the arrival on the scene of John M. Keynes. Keynes stated all of the following, except
a. The economy does not have to be at full employment at all times.
b. Investment does not have to equal saving at all times.
c. That countercyclical government policies are necessary to combat periods of unemployment.
d. Wage and price controls are a necessary part of fiscal policy.

12. If I = Actual Investment; I^* = Desired Investment; S = Actual Savings; S^* = Desired Savings, National Income equilibrium is achieved when
a. $I = S$.
b. $I = S^*$.
c. $I = S = I^* = S^*$.
d. $S^* = S$.

13. An increase in the liquid assets (wealth) of households, other things remaining the same, may be expected to result in
a. An upward shift in the consumption function.
b. A decrease in the amount consumed.
c. A downward shift of the consumption function.
d. A movement to the right along the consumption function.

14. Other things being equal, the slope of the aggregate demand schedule will increase as a result of
a. An increase in the MPS.
b. An increase in the MPC.
c. A decline in the value of the multiplier.
d. A decline in the general price level.

15. Unemployment compensation acts as an automatic or "built-in" stabilizer because

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a. It keeps national income from declining as much as it otherwise would during periods of rising unemployment.
b. It would match a decline in pension payments to keep them constant.
c. It would, along with other stabilizers, help to produce surpluses during recessions and deficits during inflations.
d. It would help to keep tax revenues constant.

16. When an economist states that the U.S. economy is at full employment, this usually means that
a. About 96 percent of the labor force is employed.
b. There are no unemployed workers.
c. There are no unfilled job openings.
d. Everyone who wants a job has one.

17. In the Keynesian theory of income determination, a fall in investment, all other things remaining constant, would necessarily result in all of the following, except one. The single exception is
a. A decrease in the level of income.
b. A decrease in the wage rate.
c. A decrease in the level of consumption.
d. A decrease in the level of savings.

18. The main determinant of consumption demand is
a. The amount left after saving, where saving depends on the rate of interest.
b. Disposable income.
c. Prices.
d. The rate of return.

19. Which of the following is not thought to be a significant determinant of business investment?
a. The rate of interest on business loans
b. Businessmen's expectations about future business conditions
c. The rate of interest on consumer loans
d. The level of profits

20. The role of government in a mixed market economy can best be described as
a. Distorting the operation of an economy.
b. Insuring the social and economic framework complementary to an operation of the market system.
c. Insuring an economic framework to act as a substitute for the market system.
d. Insuring rules of behavior for all corporations.

21. John Smith received $500 from winning a contest. Of the $500 he placed $100 in his cookie jar to save for a rainy day and used the other $400 to pay off his medical bills. John's MPC was
a. 0.0.
b. 0.2.
c. 0.8.
d. 1.0.

22. If aggregate demand is greater than aggregate supply near the full employment level, which of the following conditions may result?

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a. Recession and deflation
b. Recession and inflation
c. Expansion and deflation
d. Expansion and inflation

23. In macroeconomic analysis, induced investment is dependent upon
a. The level of income.
b. The market rate of interest.
c. The marginal efficiency of capital.
d. Technological innovation.

24. The multiplier is larger when
a. Government expenditures decrease.
b. Investment decreases.
c. Consumption rises.
d. The MPC increases.

25. If the multiplier is 3, a simultaneous increase in both G and T of $20 billion will
a. Decrease NNP by $20 billion.
b. Increase NNP by $20 billion.
c. Increase NNP by $60 billion.
d. Decrease NNP by $6.67 billion.

Core 3 Examination—Econ 202

1. In general the purchasing power or value of the dollar
a. Increases when the general price level in the economy increases.
b. Increases when the general price level in the economy decreases.
c. Has very little relationship to the general price level.
d. Is constant over time.

2. Assume company X deposits $100,000 in cash in commercial Bank A. If no excess reserves exist at the time this deposit is made, and the reserve ratio is 20 percent, bank A can increase the money supply by a maximum of
a. $100,000.
b. $500,000.
c. $80,000.
d. $180,000.

3. Excess reserves
a. Are the amount of cash held by banks.
b. Equal total reserves minus demand deposits.
c. Equal total reserves minus required reserves.
d. Average approximately 16 percent of total demand deposits in the United States.

4. The most important economic characteristic differentiating commercial banks from other financial institutions is
a. The function as a safe and profitable storeplace for savings.
b. The role in financing balance of payments deficits.

c. The status as an intermediary between savers and borrowers.
d. The ability to create and destroy money.

5. According to most economists, during inflation an appropriate monetary policy would consist of
   a. Decreases in government spending or increases in taxes.
   b. Holding taxes constant while government spending increases.
   c. Limiting the expansion of the money supply.
   d. Increasing the money supply while increasing taxes.

6. According to the Keynesians, if the economy is in equilibrium a decrease in the money supply is likely to result in
   a. A decrease in the interest rate.
   b. An increase in the amount of investment.
   c. A decrease in the amount of investment.
   d. An increase in aggregate $(C + I)$ demand.

7. Which one of the following combinations represents the tools of monetary policy that are most commonly used by the Federal Reserve in the effective exercise of monetary policy?
   a. Discount-rate policy, control over stock-buying margin requirements, and moral suasion
   b. Moral suasion and reserve-requirement changes
   c. Open-market operations, reserve-requirement changes and discount-rate changes.
   d. Stock margin requirements, loans to home builders and discount-rate changes

8. Which of the following assets is most liquid?
   a. Demand deposits
   b. Stocks
   c. Time deposits
   d. Shares in a savings and loan institution

9. The public's demand for money balances to hold is likely to
   a. Go up if income rises or if interest rates rise.
   b. Go up if income rises, but down if interest rates rise.
   c. Go up if income rises, but be unaffected by interest rates.
   d. Be unaffected by changes in income or interest rates; all that matters is Federal Reserve policy.

10. The Monetarist argument states that
    a. The money supply should be closely observed by the Fed and remedial action taken when it increases by more than 3 percent.
    b. Fiscal policy is only effective in the very long run.
    c. The money supply should be increased every year by approximately 3 to 5 percent.
    d. The money supply is only a reflection of actual goods and services produced.

11. If the reserve ratio increases, then the supply of money will
    a. Increase.

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b. Not be affected since there is little or no connection between the money supply and the reserve ratio.
c. Be expanded by a multiple amount.
d. Decrease.

12. The instrument of Federal Reserve monetary control which is likely to be least effective is
a. Reserve requirements.
b. Buying and selling bonds.
c. Changes in the discount rate.
d. Moral suasion.

13. Which of the following is not true of money?
a. It is used as a medium of exchange.
b. It is a store of wealth.
c. To have value, it must be fully backed by precious metals.
d. It functions as a unit of account.

14. A large corporation works just as hard to keep down its unnecessary cash balances as it does to keep down unnecessary inventory of goods. This is because
a. Holding of unnecessary cash leads to an increase in the money supply which is a known cause of inflation.
b. A cost is incurred in terms of sacrificed interest in holding demand deposits, bills and coins.
c. Holding unnecessary cash leads to a decrease in the money supply which is a known cause of recession.
d. A cost is incurred in terms of decreased flexibility in holding demand deposits, bills and coins.

15. Assuming a 25 percent legal reserve requirement, a new deposit of $1000 in a single small bank in a multibank system will leave that bank in a position to lend out at most
a. $4000.
b. $3000.
c. $1000.
d. $750.

16. The principal type of paper money used in the United States is
a. Federal Reserve backed notes.
b. Silver backed currency.
c. Treasury notes backed by gold.
d. National bank notes with no backing.

17. In which of the following ways does monetary policy differ from fiscal policy?
a. Fiscal policy does not suffer from a time lag in policy implementation.
b. Monetary policy suffers from a time lag in policy implementation.
c. Monetary policy can be quickly implemented.
d. Fiscal policy can have a greater effect on the interest rate.

18. To ease credit conditions in the economy, the Federal Reserve could
a. Increase the discount rate.

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b. Lower the reserve requirement.
c. Sell government bonds to member banks.
d. Encourage member banks to increase the prime rate.

19. Which of the following factors is an important reason why banks will want to expand their loans and investments when the Federal Reserve acts to give them excess reserves?
a. They are legally required to expand loans if the Fed wishes it.
b. Excess reserves are a noninterest bearing asset for banks.
c. Maintaining excess reserves is against the law.
d. If banks don't make use of the excess reserves, they fear that the Fed will remove them.

20. The money supply for the commercial banking system can be increased by an amount equal to excess reserves multiplied by
a. The required reserve ratio.
b. The reciprocal of the required reserve ratio.
c. The reciprocal of one minus the required reserve ratio.
d. The reciprocal of one plus the required reserve ratio.

21. When the Fed buys securities from member banks, the reserves of the latter are
a. Cut in half.
b. Decreased by one-fifth
c. Increased.
d. Decreased by twice the reserve ratio.

22. The most important economic function of the Federal Reserve is to
a. Lend money to banks.
b. Serve as a clearinghouse through which interbank payments can be made.
c. Control the money supply outstanding at any given time.
d. Insure depositors against the loss of their money should there be a run on a bank.

23. Those who advocate a policy of establishing monetary rules feel that it would
a. Enable commercial banks to operate more efficiently.
b. Enhance the economic influence of the Fed.
c. Permit permanent contraction of the money supply in order to eliminate inflation.
d. Neutralize the economic influence of the Fed.

24. Monetary and fiscal policy
a. Are conflicting policy tools and should not be used together.
b. Can both be used together to stabilize the economy.
c. Both require long periods of time before their implementation.
d. Both affect the economy directly via the interest rate.

25. With respect to the equation of exchange, a primary emphasis today focuses on the factors which determine the
a. Quantity of money.
b. Income velocity of circulation.

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c. Price level.
d. Quantity of output.

Core 4 Examination—Econ 202

1. According to Keynesian theory, which of the following would most likely lead to economic stability if the economy were currently in a recession?
   a. Increased tax rates
   b. A balanced budget
   c. A budget deficit
   d. A budget surplus

2. A cyclically balanced budget philosophy would entail
   a. Spending equal to revenue each year.
   b. Surplus during recession and deficit during inflation.
   c. Surplus during inflation and deficit during recession.
   d. Surplus or deficit only at a full-employment level of NNP.

3. If acute inflation was occurring in the economy, proper government policies would involve
   a. A government surplus and the purchase of securities in the open market, a lower discount rate, and lower reserve requirements.
   b. A government surplus and the sale of securities in the open market, a higher discount rate, and higher reserve requirements.
   c. A government deficit and the sale of securities in the open market, a higher discount rate, and lower reserve requirements.
   d. A government deficit and the purchase of securities in the open market, a higher discount rate, and higher reserve requirements.

4. During recession, an appropriate Keynesian fiscal policy would consist of
   a. Increases in veterans benefits and/or increases in investment incentives.
   b. Decreases in government spending and/or increases in taxes.
   c. Holding government spending and taxes constant.
   d. Taxes being held constant while government spending is decreased.

5. A characteristic of wage-price controls is that they
   a. Are designed to eliminate demand-pull inflation.
   b. Induce consumption expenditures.
   c. Increase productivity throughout industry.
   d. Cause resource misallocations.

6. As the U.S. economy is now organized, the basic decision as to whether we should have high consumption now and slow growth, or low consumption now and faster growth
   a. Lies with the President and Congress.
   b. Lies with the Federal Reserve System.
   c. Lies with individual families and business firms.
   d. Lies with the firms that manufacture investment goods.

7. The monetary measure that would best complement fiscal measures designed to bolster the economy during periods of unemployment is

a. An increase in reserve requirements.
b. A sale of bonds by the Federal Reserve.
c. A lowering of discount rates.
d. An increase in margin requirements.

8. A diagram having the percentage rate of annual inflation on one axis and the level of unemployment on the other is
   a. A diagram of the demand for money.
   b. The supply curve for money.
   c. The production possibility frontier.
   d. The Phillips curve.

9. Under conditions of full employment, if the government has a new project it must undertake, it should raise the money according to the Keynesian theory
   a. By taxation, because there is no other way of getting money.
   b. By taxation in order to prevent inflation.
   c. By borrowing from wealthy investors.
   d. By borrowing in order to prevent inflation.

10. During inflationary periods the Federal Reserve open market committee would be
    a. Selling bonds.
    b. Stabilizing bond prices
    c. Converting from bonds to stocks.
    d. Buying bonds.

11. All of the following are objectives of macroeconomic policy except
    a. Full employment.
    b. Stable prices.
    c. Continued growth and prosperity.
    d. An equal distribution of wealth between countries.

12. Since the end of World War II, the long-run trend of our public debt as a percentage of real GNP has been
    a. Increasing.
    b. Decreasing.
    c. Remaining approximately the same.
    d. Less than 10 percent.

13. At full employment, an inflationary gap is most likely to be avoided if
    a. Personal taxes are held constant while government spending is increased.
    b. Personal taxes are increased by more than government spending is increased.
    c. Personal taxes are increased by less than government spending is increased.
    d. Personal taxes are decreased while government spending is held constant.

14. Which policy is the Treasury most likely to follow if it wishes to expand the money supply?
    a. Decrease deposits with commercial banks and increase deposits with Federal Reserve banks.
    b. Increase deposits with commercial banks and decrease deposits with Federal Reserve banks.

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c. Hold deposits with commercial banks constant while increasing deposits with Federal Reserve banks.
d. Increase deposits with Federal Reserve banks and print new money.

15. Inflation is likely to occur when
a. Planned saving is greater than planned investment.
b. The banking system creates money.
c. Prosperity is past.
d. Aggregate demand exceeds aggregate supply at full employment.

16. Less developed countries are caught in a low-level development trap if
a. As income grows, the population remains constant.
b. As income grows, the population decreases.
c. As income grows, the rate of growth of population increases at a faster pace than the rate of growth of income.
d. As income grows, the rate of growth of population increases at a slower pace than the rate of growth of income.

17. Which of the following policies is likely to result in the greatest reduction in aggregate demand?
a. A $5 billion increase in personal income taxes
b. A $5 billion increase in government transfer payments
c. A $5 billion cut in government purchases of goods and services
d. A $5 billion cut in government purchases accompanied by a $5 billion increase in tax receipts

18. If additional dollars of public spending are matched by additional dollars of taxation in a full-employment economy, the effects on aggregate demand are most likely to be
a. Contractionary.
b. Expansionary.
c. Neutral.
d. Indeterminate.

19. If a person earning $5,000 pays $500 in taxes, and a person earning $15,000 pays $1,500 in taxes then the tax is
a. Proportional.
b. Progressive.
c. Regressive.
d. Indirect in incidence.

20. President Rondayview enters office on a pledge to restore fiscal sanity to government. He cuts government expenditures so that taxes and expenditures are both equal at $100 billion. The new budget
a. Has no economic effect because it is in balance.
b. Is expansive because it raises private investment.
c. Is restrictive because the impact on the economy is equal to the amount of the cut times the value of the multiplier.
d. Is restrictive because it reduces aggregate demand by the amount of the expenditure cut.

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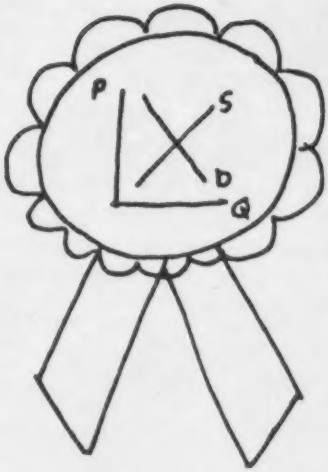

_____
Chairman of Council

_____
Assistant to the Chairman

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Appendix II

Course Outline and Assignments for the Introductory Microeconomic Course

1. *Textbook*

All required reading assignments are listed below. The text for the course is Richard T. Gill, *Economics: A Text with Included Readings*, 1973.

2. *Consultation*

For all problems concerning readings and quizzes and for general discussion of course materials, see your section instructor at those times the instructor will set for office hours.

3. *Grades*

See handout entitled "The Testing Procedure."

Core I. Elementary Demand and Supply

1. *Housekeeping* (1 class: Sept. 26)

a. *Models, Equilibrium, Ceteris Paribus*

In an attempt to shed light on the pressing issues of the day, economists resort to the use of theoretical models. These models are often fairly simple descriptions of the framework underlying the problems in question. Attention is confined in many cases to equilibrium positions. Changes are permitted to take place under *ceteris paribus* conditions; this is done to isolate the consequences of that particular change.

b. *Scarcity and Trade-Offs*

Every economy, be it wealthy or poor, faces what might be called the Economic Problem: The allocation of a limited quantity of human, natural and man-made resources to satisfy the vast array of human wants. The source of the problem is the scarcity of resources. This scarcity forces an economy to choose among various ways of using resources in satisfying wants. In this perspective all the potential goods and services producible by an economy can be viewed as competing against each other for scarce resources. This point can be stated somewhat differently: There is a trade-off relationship among the commodities producible in the economy. The production possibilities curve illustrates this relationship. (Chapter 1. Omit the discussion relating to Figure 1-2.)

c. *The Production Possibilities Curve and the Private Enterprise System*

Because of the trade-off relationship which exists among commodities, many important questions beg for answers. The most important are these: "What should be produced?"; "How much should be produced?"; "Who should receive how much of what?" In a socialistic economy these questions are answered by economic planners. In a private-enterprise economy, they are answered by private decisions growing out of individual self-interest expressed in a market setting. Two basic types of economic units participate in the activities of the market: households and firms. These and their behavior are the focus of this course. (Chapter 2, pp. 25-34. Omit *Birds-Eye*.)

2. *The Demand Side of the Coin: The Focus on the Household* (2 classes: Oct. 1 and 3)

a. *The Individual's Demand Curve for a Commodity*

There would be no Economic Problem if you could buy everything you wanted. Unfortunately, this is not possible, for the obvious reason that you have only a limited income. You are required to make choices. It is reasonable to assume that you will spend your income in such a way as to receive *more* rather than less satisfaction from your spending activities. If an extension of this rule is permitted, it follows that in general your demand curve for a given product will be downward sloping. A given demand curve is derived under *ceteris paribus* conditions—with only the price of the commodity in question being changed and all other factors influencing demand remaining unchanged. Should these other factors change, the demand curve would shift. (First skim Chapter 2, pp. 36-37. Then read Chapter 18, pp. 432-436 (1st column). Reread pp. 36-37.)

b. *The Market Demand Curve for a Commodity*

The market demand curve for a commodity is the summation of the demand curves of all the individuals demanding that commodity. The market demand curve is typically downward sloping in reflection of the shapes of the individual demand curves; its shifts reflect shifts in the individuals' demand curves.

c. *The Price Elasticity of Demand*

The price elasticity of demand measures the responsiveness of the quantity demanded of a commodity to a change in its price. More precisely, the price elasticity relates the percentage change in the quantity demanded to the percentage change in price. Depending on the value of the elasticity, the demand curve is said to be elastic, be inelastic, or to have unitary elasticity in a region. The price elasticity depends on a number of factors, among them the existence of substitute or complementary commodities. The price elasticity of demand is related to total revenues. (Chapter 4, pp. 102-103.)

3. *The Supply Side of the Coin: The Focus on the Firm* (½ class: Oct. 8)

a. *The Individual and Market Supply Curves*

An individual firm will usually supply greater quantities of a commodity only at higher prices because of the nature of its costs. Therefore, the supply curve relevant to an individual firm is typically upward sloping. The market supply curve is derived from the individual supply curves. While the derivation is contaminated with a few complications, the market supply curve can nevertheless be viewed as upward sloping. (Chapter 2, pp. 37-40. Omit *The "Law."*)

b. *The Elasticity of Supply*

The elasticity concept applies to supply curves as well as to demand curves. Three types of elasticity can again be distinguished. The elasticity of supply varies with the time period involved.

4. *The Determination of the Market Price* (1 class: Oct. 8 and 10)

By confronting the market demand curve with the market supply curve, the equilibrium price of the commodity in question is determined. The actual price of the commodity may not, and probably will not, be at the equilibrium level initially. In this case the actual price will begin to adjust to the equilibrium level by what might be termed a groping procedure. When the equilibrium price is reached, the market is in equilibrium. This equilibrium, of course, can be disturbed by shifts in either the market demand or the market supply curve. Government interference in the functioning of the market might prevent the attainment of equilibrium. This is the case with agricultural price supports and the recent price freeze. Are the consequences of a

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forced disequilibrium desirable? (Chapter 2, pp. 40-46; Chapter 18, pp. 429-431; Chapter 27, Debate 4, pp. 647-663.)

5. *The Costs of Producing Commodities* (½ class: October 10)

In producing commodities the entrepreneur faces various types of costs. Some costs are explicit, as (e.g.) the wages and salaries which the entrepreneur pays to his employees. Other costs are implicit, as (e.g.) the opportunity cost of the entrepreneur. Opportunity costs, which in this case is the value of other income foregone, arises out of the scarcity of resources; it can also be used to illustrate the trade-off relationship which exists among commodities. Various curves which describe the cost of producing commodities can be distinguished. (Chapter 17, pp. 413-418. Omit Figures 17-1 to 17-3 and the related discussion. Omit *Convexity of Isoquants*. Read Chapter 19, pp. 445-449.)

6. *The Determination of Price Under Perfect Competition* (2 classes: Oct. 15 and 17)

a. *The Assumption of Profit Maximization*

A firm's profit is the difference between its total revenue and its total cost. Firms, in general, strive to earn a profit from the process of producing commodities. Although real-life firms do not in all circumstances attempt to maximize profit, it will be convenient to assume that they do. This assumption should be regarded as a first approximation to the factors which actually motivate an entrepreneur. The quantity of output at which profit is a maximum can be determined by comparing marginal revenue with marginal cost.

b. *Profit Maximization Under Perfect Competition*

A firm is a perfectly competitive seller if there are a very large number of identical sellers who sell the identical product and who act independently of each other. In this setting the demand curve facing the individual firm is a horizontal straight line. This demand curve is also the firm's marginal revenue curve. The firm's marginal cost curve is J shaped. Profit will be maximized or loss will be minimized at the intersection of the marginal revenue and marginal cost curves. If a firm should be incurring a loss, it will remain in operation only if it loses less by doing so than by shutting down. From this it follows that the individual firm's supply curve is a portion of its marginal cost curve. (Chapter 19, pp. 449-454. Read but deemphasize Chapter 19, pp. 454-459.)

c. *Market Equilibrium and the Perfect Competitor*

A shift in the equilibrium position of the market will disrupt the equilibrium of an individual, perfectly competitive firm. As the system adjusts to the disturbance, price and quantity will generally change. (Chapter 20, pp. 474-478. Omit Summary.)

Core II. Noncompetitive Markets

1. *Monopoly* (1 class: Oct. 22)
(Chapter 24, pp. 539-541, 543-544, 574-578)
Major Issues:
   a. Why have the American people traditionally distrusted monopolies and big business?
   b. Are some sectors of the economy "natural monopolies"?
   c. What factors create monopoly power?

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d. What is the extent of monopoly power in the U.S. economy?

2. *Monopolistic Competition (Limited Monopoly)* (1 class: Oct. 24)
(Chapter 24, pp. 578-580, 542-543)
Major Issues:
a. How do sellers differentiate their product?
b. Does advertising create net costs or net benefits for the consumer?
c. Is "quality competition" a good substitute for price competition?
d. If an industry is earning normal profits, can it still impose excess costs on the consumer?

3. *Oligopoly—Big Business* (1 class: Oct. 29)
(Chapter 24, pp. 580-583, 585-587, Debate 3 (pp. 545-573))
Major Issues:
a. How many firms "should" be in an industry to assure competition?
b. How do firms act to avoid competition?
c. Is American industry concentrated in the hands of too few owners or managers?
d. How does GM set prices for the Chevrolet?

4. *Government Intervention in Business Affairs* (2 classes: Oct. 31 and Nov. 5)
(Chapter 15)
Major Issues:
a. Why can't free enterprise be expected to survive in some industries?
b. What are mergers and why are they profitable?
c. What are the antitrust laws supposed to do? What have they actually accomplished?
d. Is monopoly a dead issue in the U.S.?
e. What is government regulation of business all about and who benefits from it?
f. Are big firms more efficient than smaller firms?
g. Should the government fund all basic research having industrial applications?

Core III. Economics and the Problems of the 1970's

1. *The Distribution of Income and Wealth in the U.S.* (1½ classes: Nov. 7 and 12)
(Chapter 26, pp. 614-629; Chapter 29, pp. 697-699)
Major Issues:
a. Who gets what share of U.S. national income?
b. Who controls America's wealth, stocks, land?
c. Do people get paid what they're worth?
d. Why do doctors earn more than welders?
e. Are workers in America exploited?
f. Does population growth lower wages?
g. Do minimum-wage laws benefit unskilled workers?

2. *Poverty* (1½ classes: Nov. 12 and 14)
(Chapter 29, pp. 699-716)
Major Issues:

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a. Who are the "poverty families" in the U.S.?
b. Should those who work be forced to subsidize those who don't?
c. Is there a "culture of poverty"?
d. How is it that taxpayers "pay twice" for food stamps?
e. What have government programs accomplished toward solving the poverty program?
f. Could we eliminate poverty in the U.S. or must the poor "always be with us"?

3. *Externalities and Public Goods* (1 class: Nov. 19)
(Chapter 30, pp. 719-728, 757-760)
Major Issues:
a. What goods are necessarily *public* goods?
b. Does government taxing and spending transfer income to the rich or to the poor?
c. Should the government subsidize the SST? Lockheed? The Penn Central?
d. Can "the public interest" ever be determined?
e. Is cost-benefit analysis basically a technical rationalization of what bureaucrats want to do?

4. *Economics of the Environment* (1½ classes: Nov. 21 and 26)
(Chapter 30, Debate 5, pp. 729-756)
Major Issues:
a. How is pollution related to "the tragedy of the commons"?
b. Must there be a trade-off between full employment and a clean evvironment?
c. Is there an optimal level of pollution?
d. Who pays for pollution control systems?
e. Do seagulls have rights? Do rocks have rights?
f. Is the environmental movement a middle-class fad?

5. *Case Study: The Energy Crisis* (1½ classes: Nov. 26 and 28)
(*Newsweek*, Jan 22, 1973; *Business Week*, April 21, 1973, "Enough Energy—If Resources," pp. 50-60; NBC Reports, *The Energy Crisis: An American White Paper*, September 4, 1973; newspaper reports)
Major Issues:
a. Why did America suddenly "run out" of oil?
b. Is the oil and petroleum shortage the result of a conspiracy among the major oil companies?
c. How do the alternatives to fossil fuels stack up? Should the government pay their development costs?
d. Shale oil to the rescue?
e. Another Appalachia in Montana?
f. Another Teddy Roosevelt for the Middle East?
g. Crude oil smokescreen by the Defense Department?
h. A simple growth-energy pollution model.

6. *Case Study: The Economics of Crime* (1½ classes: Dec. 3 and 5)
Major Issues:
a. Are criminals "moral misfits" or "entrepreneurs in socially unacceptable enterprises"?
b. What is the social cost of crime?

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c. Is crime deterrable? What is the crime deterrence system?
d. Should society worry about "crimes without victims"?
e. Is there an unemployment-poverty-crime nexus?
f. What are the differences between the economic, the sociological, the legal, and the criminology approaches to crime?

CORE III ends

Housekeeping (½ class: Dec. 5)

The Testing Procedure for Microeconomics

1. *Overview*
   a. *No Cumulation*
   This course is divided into 3 core areas:
   Core I—Elementary Demand and Supply
   Core II—Noncompetitive Markets
   Core III—Economics and the Problems of the 1970's.
   Each core will be tested in isolation from the other cores. This means that the Core II exams will not cover Core I materials, etc. Students taking Core II exams, however, will be expected to be able to draw from their knowledge of Core I in answering the questions. *There will be no cumulative final exam.*
   b. *Flexibilities*
   Each student, at his or her own discretion, may be tested twice on any core or on all cores; and only the higher grade for any core will be counted. Furthermore, the student can take the exams whenever he or she wishes (within reason). It is possible, for example, for a student to complete all the testing and know his or her final grade early in the course. (This option is strongly discouraged, however.) These flexibilities are permitted because the exams will be exactly alike. *To discourage students from postponing testing to the end of the course a system of bonuses and penalties will be imposed.*

2. *Specifics*
   a. *Structure of the Exams*
   Each exam consists of 33 or 34 multiple-choice questions, each worth 1 point. The scoring for each exam is simply the number of correct responses. There is no penalty for guessing.
   b. *"Deadlines," Bonuses and Penalities*
   Core I ends October 17. *The "deadline" for taking Core I exams is October 31. If a student's Core I testing is completed on or before October 31, he or she will receive 5 bonus points.* Thus, if the student takes an exam on Core I on or before October 31, is satisfied with his or her grade, and informs his or her T.A. to this effect, the student receives 5 extra points. The same bonus is obtained if the student takes two exams on Core I on or before October 31. The bonus is then added to the higher of the two exams. *If the deadline is passed, penalities will be imposed. These are of two forms. First, the student is entitled to only 1 exam on Core I. Second, he or she will be penalized 5 points*—5 points will be subtracted from his or her grade.
   Core II ends November 5. *The deadline for taking Core II exams is November*

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16. The same bonus-penalty plan applicable to Core I applies to Core II.

Core III ends December 5. ***The Core III deadline is December 14.*** There is no bonus for Core III. No exams will be administered after December 14.

A student who has not taken an exam in a core by December 14 will receive a zero for that core. Medical excuses, properly documented, should be brought to the attention of the instructor on or before that date.

c. *Maximum and Minimum Point Totals*

The maximum points attainable from the 3 cores is 100, excluding bonuses. Thus, the maximum points which a student can collect is 110, including the 10 bonus points. The minimum is zero.

d. *Course Curve*

The curve for the course—including exam scores, bonuses and penalties is:

A: 100-91
B: 90-81
C: 80-71
D: 70-61
F: 60-0.

e. *Administration of the Exams*

All exams will be administered by the T.A.'s at times and places to be announced shortly. A student "desiring" a test should simply go to the exam room at the designated time and indicate to the T.A. the core on which he or she wishes to be tested. The T.A. will then hand the student an exam which the computer constructed in advance. (No teletypes are involved.) ***The T.A. will score the exam immediately on its completion.*** The student can then review the exam and make notes about material which he or she wishes to discuss with the T.A. or with the instructor. The exam is then returned to the T.A. Any discussion about the material covered on the exam should be held during the T.A.'s or instructor's office hours.

Note these rules:

i. A student cannot take exams out of sequence. Core I exams must be taken before Core II exams, and Core II exams before Core III exams.

ii. A student cannot take two exams for the same core on the same day; but he or she can take exams from different cores on the same day subject, of course, to rule i.

Core I Examination—Econ 203

1. A fixed cost means
   a. the cost of any input whose per-unit price has been fixed, whether by long-term contract or by some similar means.
   b. a cost whose increases are exactly proportional to increases in output.
   c. any component included in average cost which enters in AC as the same fixed per-unit amount, no matter what the level of plant output may be.
   d. cost which the firm would incur even if its output were zero.

2. Suppose that on its Tacoma to Seattle run, Ferguson Airlines noted the following costs and prices which are not expected to differ in the future:
   Total costs = $1,000; ticket price = $50; fixed costs associated with ownership of the airplane = $405. It averages 15 passengers a flight. As a result:

a. Ferguson should drop the flight immediately.
b. Ferguson should continue the flight indefinitely.
c. Ferguson should continue flying until present planes wear out and then drop the run.
d. If Ferguson drops the flight, it will lose nothing.

3. The Moonkiss Association employs an economist to determine empirically the elasticity of the demand curve for Valencia oranges picked in California for the past 30-year period. This task
   a. will be easy, if he can get information on all other prices of the goods the consumers buy and changes in their income.
   b. will be difficult because he cannot control the investigation by holding all other things he knows to be important constant and measuring only the change in the price of oranges and the amount demanded.
   c. will be difficult because the demand for oranges violates the law of demand as evidenced by the fact that when the price of oranges in New York is very high, the demand for them is also very high.
   d. will be difficult because people use so little of their income buying oranges.

4. When the economist says that the demand for a product has increased, he means that
   a. the demand curve has shifted to the left.
   b. product price has fallen and as a consequence consumers are buying a larger quantity of the product.
   c. the product has become particularly scarce for some reason.
   d. consumers are now willing to purchase more of this product at each possible price.

5. If a producer would be happy to increase sales at current prices
   a. he cannot be in equilibrium.
   b. he cannot be a perfect competitor in equilibrium.
   c. he cannot be an imperfect competitor in equilibrium.
   d. he is no different from any other businessman—we cannot say more than that.

6. Suppose that the supply of manganese is absolutely fixed, and that a war causes manganese prices to zoom skyward. Thinking only of the effects on efficiency and not of the effects on income distribution, we can say the price rise is
   a. a regrettable, but unimportant, consequence of free markets.
   b. a serious defect of free markets, since the rise makes it harder for armaments producers to get the manganese they need.
   c. useful, since it helps to ration a scarce resource.
   d. useful, since it helps to prevent profiteering by armaments producers.

7. The price of product x is reduced from $100 to $80 and, as a result, the quantity demanded increases from 50 to 60 units. From this we can conclude that
   a. the demand for x is elastic.
   b. the demand for x is inelastic.
   c. the demand for x is of unitary elasticity.
   d. the demand for x has declined.

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8. If L and M are complementary goods, an increase in the price of L will result in
   a. an increase in the price of M.
   b. an increase in the sales of M.
   c. a decrease in the sales of M.
   d. a decrease in the price of M.

9. In a free enterprise economy, production is organized via
   a. the establishment of production quotas by government agencies.
   b. individuals exercising their right to vote for candidates for political offices.
   c. the use of promotional and bonus incentives for workers to operate more efficiently.
   d. businessmen attempting to make the greatest possible level of profit.

10. During the first year that the Salk vaccine for infantile paralysis became available, the quantity produced was too small to inoculate all those in susceptible age groups. Although the cost of production and the price were not particularly high, production could not be expanded rapidly enough to meet the demand. The government therefore intervened to regulate its distribution. What do these facts suggest about the price of Salk vaccine during the first year it was available?
   a. The price was at equilibrium.
   b. The price was above equilibrium.
   c. The price was below equilibrium.
   d. The price was indeterminate.

11. The market demand curve for a good depends on all of the following except
   a. the cost of producing the good.
   b. individual tastes.
   c. the distribution of income.
   d. the prices of other goods and services.

12. Which of the following statements most accurately reflects the basic postulate of demand theory?
   a. Persons act purely because of selfish motives, but they will be less likely to follow selfish actions as these actions become more costly.
   b. Persons act primarily because of humanitarian motives, and this explains why less of a product is bought at a higher price.
   c. Persons act in response to a variety of motives, including both selfish and humanitarian ones, and they will be less likely to follow a course of action (e.g., purchase a commodity) as the cost of the action increases.
   d. Persons act for a variety of reasons, but their actions will be affected by changes in the cost of activities only when they are motivated by selfish interest, narrowly defined.

13. If all the firms producing a product in a competitive market are required to adopt antipollution devices that increase their monetary cost we would expect
   a. the market supply curve to shift to the left.
   b. the demand for the product to fall.
   c. the long-run economic profits of the firms to fall.
   d. the short-run economic profits of the firms to remain unchanged.

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14. In the short run, if average variable costs equal 6 and average total costs equal 10 and output equals 100, then the total fixed costs equal
    a. 4.
    b. 10.
    c. 400.
    d. 1600.

15. "The winds of recent hurricanes in Florida are bringing soothing financial gain to California citrus growers. Due to the extensive damage to the Florida Citrus crop, California citrus products are commanding their highest prices ever." Which of the following statements best explains the economics of the quotation?
    a. The supply of Florida oranges has decreased, causing their price to increase and the demand for the substitute California oranges to increase.
    b. The supply of Florida oranges has decreased, causing the supply of California oranges to increase and their prices to rise.
    c. The demand for Florida oranges has been reduced by the hurricane causing a greater demand for the California oranges and an increase in their price.
    d. The demand for Florida oranges has been reduced causing their prices to fall and therefore increasing the demand for the substitute California oranges.

16. Which of the following will not cause a shift in the demand for product A:
    a. a change in consumer preferences.
    b. a change in the price of A.
    c. a decline in consumer incomes.
    d. a decrease in the price of a close substitute for product B.

17. When the economist says that material wants are insatiable, he means that
    a. the structure of consumer wants is highly unpredictable.
    b. the structure of consumer demand varies from time to time and from country to country.
    c. these wants are virtually unlimited and therefore incapable of complete satisfaction.
    d. economic resources—land, labor, capital and entrepreneurial ability—are scarce.

18. TVRama is considering a price reduction of 10 percent on its color TV sets, while prices for its black and white (B and W) television sets are held constant. How will the price reduction affect the firm's total revenues?
    a. Revenues from B and W sets will fall, while revenues derived from color sets may either increase or decrease.
    b. Revenues from B and W sets will increase, while revenues derived from color sets will fall.
    c. Revenues from color sets will fall, while revenues from B and W sets could either increase or decrease.
    d. Revenues from color sets will increase, while revenues derived from B and W sets will fall.

19. Joe College, in estimating the costs of his senior year at the university, proves his expertise as an economist by correctly including all the opportunity costs of his education. The items on Joe's list include all but one of the following:

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a. tuition and fees.
b. books and supplies.
c. meals.
d. income from job given up.

20. You are an analyst for Xerez bicycle cleaner. Your boss wishes to know why demand for your product is decreasing. Which of the following might be the reason?
a. Consumers are making more income and consider this a luxury good.
b. The price of auto wax (a complementary good) is falling.
c. More bicycles are being sold.
d. The company announced a price increase for next month.

21. The quantity of a good which a person will purchase will not depend on one of the following items:
a. the prices of substitute goods.
b. his tastes.
c. his income.
d. the elasticity of demand.

22. Given the supply curve for butter, a reduction in the price of oleomargarine will tend to
a. increase the demand for butter.
b. increase the demand for oleo.
c. raise the price of butter.
d. lower the price of butter.

23. Which of the following cannot properly be thought of as an economic resource?
a. Iron ore deposits.
b. A factory building.
c. An economics professor.
d. A consumer's desire for food.

24. Cost of production depends upon all the following except:
a. production methods.
b. the rate of output.
c. the demand for the product.
d. factor prices.

25. If a single firm in pure competition lowers its price below the equilibrium market price
a. it would get a large share of the market.
b. it would not maximize profit.
c. other firms would lower their prices too.
d. other firms would be driven out of the industry.

26. Which of the following would most likely cause a decrease in current consumer demand for product x:
a. an increase in consumer income.
b. a decrease in the prices of goods which are close substitutes for x.

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c. an increase in the price which consumers expect will prevail for product x in the future.
d. a decline in the price of product x.

27. In competitive markets, the equilibrium price is determined by
a. the intersection of the individual firm's supply curves and the individual consumer's demand curves.
b. the output at which the amount consumers buy just equals the amount the firms sell.
c. the intersection of total industry supply and demand curves.
d. the amount firms are willing to supply at every output.

28. Which of the following necessarily declines continuously as output increases?
a. Average total cost.
b. Average fixed cost.
c. Average variable cost.
d. Total fixed cost.

29. If net revenue is at a maximum then
a. marginal revenue equals average total cost.
b. marginal revenue equals marginal cost.
c. marginal revenue is greater than total revenue.
d. average revenue equals average variable cost.

30. Which of the following is not a required characteristic of a perfectly competitive market?
a. Consumers have no reason to prefer one firm's product to another.
b. There are enough firms so none can influence market price.
c. Any firm can enter or leave the market.
d. Market demand is highly elastic.

31. A shift to the right in the demand curve for product A could most reasonably be explained by the fact that
a. the price of A has declined and, as a result, consumers want to purchase more of it.
b. consumer preferences have changed in favor of A so that they now want to buy more at each possible price.
c. the price of A has increased and, as a result, consumers want to purchase less of it.
d. consumer incomes have declined and they now want to buy less of A at each possible price.

32. Suppose there are 5,000 identical firms in a competitive industry. Then each firm's marginal revenue curve is
a. 1/5,000 of the industry demand curve.
b. 1/5,000 of the industry supply curve.
c. a horizontal line equal everywhere to its marginal cost curve.
d. horizontal at the industry market-clearing price.

33. In which of the following cases will total revenue decline?

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a. Prices rise and demand elasticity is 0.41.
b. Prices rise and demand elasticity is 1.0.
c. Prices fall and demand elasticity is 10.0.
d. Prices rise and demand elasticity is 2.47.

Core 2 Examination--Econ 203

1. A firm that has a dominant monopolistic position in an industry may try to protect it by
   a. doing large-scale prestige advertising.
   b. refusing to engage in research or apply for patents.
   c. using only raw materials that are sold competitively.
   d. keeping its scale of production small.

2. An oligopolist is different from other types of firms because
   a. it is independent of other firms.
   b. its actions are not influenced by other oligopolists.
   c. its demand curve is determined by the actions of other firms.
   d. it has a lot of control over its price.

3. The term "pure monopoly" refers to
   a. a seller of a highly advertised product.
   b. the only seller of a good with no significant substitutes.
   c. the only buyer of a raw material.
   d. government-subsidized industries.

4. The television that is provided through the expenditures of advertisers is best regarded as
   a. a free service which we otherwise would have to pay for.
   b. paid for through higher prices of advertised products, without separate free choice by consumers.
   c. economically justified if we could choose to watch the programs.
   d. the only way television could be financed.

5. A monopolist has an incentive to advertise because
   a. if he could sell more at the market price, he might increase his profits.
   b. he would love to increase his share of the market.
   c. he would like to lower his demand curve until price equals marginal cost.
   d. advertising will always increase a monopolist's profits.

6. A monopolist would maximize profit by operating at the output where
   a. marginal cost equalled average cost.
   b. marginal cost equalled marginal revenue.
   c. marginal cost equalled price.
   d. average cost equalled price.

7. Which of the following is not a possible result of an unregulated monopoly?
   a. Lower output than with perfect competition.
   b. Higher prices than under perfect competition.
   c. Possible resource misallocation.

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d. Lower prices than with competition.

8. The most important divergence of an industry under monopolistic competition from the desirable results of pure competition is probably
   a. total output too low.
   b. profit too high.
   c. too many different products.
   d. selling costs too high.

9. Monopolistically competitive markets will be most like the perfectly competitive model if
   a. firms in the industry are successful in achieving brand preference among consumers.
   b. as more firms enter the industry, each firm's demand curve becomes more and more elastic.
   c. advertising is successful in creating product differentiation.
   d. firms set MR = MC.

10. The main problem an oligopolist experiences in deciding on his price and production policy is that
    a. he cannot ignore the possible reactions of competitors to his own policies.
    b. he knows his competitors will match every move he makes.
    c. he already has such a large market share that his chance to grow is very small.
    d. his firm is so large that he finds it difficult to manage it efficiently.

11. The marginal revenue curve for a monopolist will be below his demand curve
    a. because a monopolist's demand curve is perfectly elastic.
    b. if, in order to sell more output, the monopolist is forced to lower prices on all goods sold.
    c. because as output increases, marginal costs typically increase.
    d. because as output increases, total products typically decrease.

12. Columnist Walter Brinkley writes: "In the long run, profits in a monopolistically competitive industry lead to a stronger economy." Which of the following would apply to the statement based on economic theory?
    a. High profits lead to industrial concentration which is desirable in a monopolistically competitive industry.
    b. High profits lead to the entry of new firms. This eventually causes the profits of all firms in the industry to return to normal.
    c. High profits lead to an improved income distribution.
    d. Short-run profits are more important than long-run profits. In the long run, we are all dead.

13. All of the following are good examples of oligopoly industries in the United States except
    a. railroads.
    b. the steel industry.
    c. neighborhood grocery stores.
    d. the computer industry.

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14. If the price charged by a monopoly firm is on the inelastic portion of its demand curve, to maximize profits it should
    a. increase output and cut price.
    b. decrease output and raise price.
    c. increase output and price.
    d. not change output or price.

15. The trend of mergers over the last two decades has been
    a. fewer mergers in number, but larger in size.
    b. proportionately fewer horizontal or vertical mergers, more conglomerate ones.
    c. many more mergers, but decreasingly involving large firms.
    d. almost stopped after the antimerger act of 1950.

16. In the short run, under imperfect competition, a firm that wishes to maximize profits or minimize losses has to produce that output which
    a. equates marginal cost with marginal revenue.
    b. equates marginal cost with price.
    c. corresponds to the lowest point on the average variable cost curve.
    d. corresponds to the lowest point on the average total cost curve.

17. In any type of economic organization profits will be maximized at the quantity of output where
    a. ATC is at a minimum.
    b. TR = TC.
    c. MC = MR.
    d. MR exceeds MC.

18. A monopolistically competitive firm has such a sales schedule that it can sell 10 prefabricated gas stations per week at $10,000 each, but if it restricts its output to 9 per week it can sell these at $11,000 each. The marginal revenue of the tenth unit of sales per week is
    a. $1,000.
    b. $10,000.
    c. $9,000.
    d. −$1,000.

19. From the viewpoint of his own self-interest, the monopolistic seller should not sell in the region of inelastic demand because
    a. his marginal cost will be high.
    b. smaller sales quantity would bring in more revenue.
    c. marginal revenue is too high.
    d. new competition is more likely to spring up.

20. Of the following, the best example of a monopolistically competitive firm is:
    a. A pea farmer.
    b. American Motors.
    c. U.S. Steel Corporation.
    d. The neighborhood A&P food store.

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21. An oligopolist would view his demand curve as having a "kink" if
    a. competitors would match his price cuts but not his price rises.
    b. competitors would match his price rises and his price cuts.
    c. competitors would increase their advertising if he cut his price.
    d. competitors would not react to price changes.

22. A monopolist faces a downward-sloping demand curve because
    a. the demand for his product is inelastic.
    b. typically, he sells only to a few larger buyers.
    c. the industry demand curve must be downward sloping.
    d. consumers prefer his product.

23. The competitive firm's short-run supply curve will be
    a. perfectly elastic just like its demand curve.
    b. the firm's marginal-cost curve anywhere above the shutdown point.
    c. the firm's marginal-cost curve anywhere above the firm's fixed-cost curve.
    d. the market supply curve.

24. Advertising
    a. is a leading form of nonprice competition.
    b. will be more effective the more a firm is like a perfect competitor.
    c. is useless for a monopolist.
    d. is an important form of product differentiation employed in the steel industry.

25. Both logically and historically, the tendency is for oligopolistic firms
    a. to compete aggressively, with price wars and other destructive means, until only one firm remains.
    b. to come to tacit or explicit agreement to limit the scope of competition.
    c. to merge into one firm to avoid having to compete with each other.
    d. to dissolve into many smaller firms, and become more purely competitive.

26. Some years back, a large group of firms selling porcelain bathroom fixtures entered into an agreement confining each firm's sales to its own geographical area. The firms claimed this would help the buyer by insuring good product service by local representatives and avoiding expensive cross-area shipping costs. Assume that you must testify in court concerning the likely effect of the plan. You would be correct in asserting that
    a. the plan will raise consumer prices by converting a monopolistically competitive market into a number of local monopolies.
    b. the plan will raise consumer prices by converting a monopolistically competitive market into a single monopoly.
    c. the plan will lower consumer prices by lowering the costs of shipment.
    d. the plan will raise consumer prices by converting a monopolistically competitive market into an oligopoly market structure.

27. The fact that the physical constraints (size of buildings, number of operational machines, etc.) of a plant are more binding over a month time period than a six-month period explains why
    a. it is more costly to increase output rapidly than slowly.
    b. the long-run average cost curve is U-shaped.

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c. it is less costly to produce output in the future rather than the present.
d. a firm will always choose a rate of increase in output that will minimize cost of production.

28. In the long run, in a monopolistically competitive industry, high profits on the part of one firm
a. will lead to high profits for others, as they imitate the successful firm's methods.
b. will drive other firms out of the industry, and lead to pure monopoly.
c. will lead to new entry, and tend to drive profits down to normal.
d. will continue indefinitely, since the profitable firm will erect barriers to entry.

29. Economic theory about oligopoly behavior
a. predicts the price will be the same one monopolists would set.
b. predicts the price will fluctuate constantly.
c. predicts occasional price changes, but cannot predict the resulting new level.
d. predicts price equal to average cost in long-run equilibrium.

30. Mergers of two or more business firms may be illegal
a. under the Clayton Act if the merger is likely to result in a substantial lessening of competition, and under the Sherman Act if the merger constitutes an attempt to monopolize.
b. under the Clayton Act, but not under the Sherman Act.
c. under the Sherman Act, but not under the Clayton Act.
d. under both the Sherman and the Clayton Acts as well as under the Robinson-Patman Act.

31. Suppose a fully employed economy had only two industries, one monopolistic, the other competitive. Assuming that there are no economies of large-scale production, government action to break up the monopoly into many competitive firms would lead to
a. an increase in output for the monopolized industry and a decrease in output for the competitive industry.
b. a decrease in output for the monopolized industry and an increase in output for the competitive industry.
c. an increase in output for both industries.
d. a decrease in output for both industries.

32. Other things being equal, high barriers to entry into an industry are likely to be
a. associated with poor economic performance.
b. associated with good economic performance.
c. unimportant as a determinant of technical progress.
d. essential for technical progress.

33. What is the essential factor which causes perfect competition to produce a more efficient allocation of resources than monopoly?
a. The firms in perfect competition try to minimize cost while monopolies try to maximize profits.
b. The firms in perfect competition try to maximize output while monopolies try to maximize profits.

c. The firms in perfect competition have no effect upon the market price for their product while monopolies control price.
d. Firms in perfect competition try to set low prices while monopolies try to set high prices.

Core 3 Examination—Econ 203

1. "If the value of output in an industry increases by 4 percent per year, and workers receive a wage increase of 4 percent per year, then nothing is left for increasing the compensation of other factors of production." Which of the following best describes this quotation?
   a. It is essentially correct.
   b. It is incorrect because it confuses income with output.
   c. It is incorrect because wages are less than 100 percent of the total factor payments.
   d. It is incorrect because the increase in wages actually reduces the real income of all other factors of production.

2. Which of the following would provide the *best* justification for the gasoline tax proposed by President Ford?
   a. As a means to reduce consumer incomes and thus lead to fewer purchases of new autos.
   b. As a means to decrease the demand for gasoline by making it more expensive to purchase.
   c. As a means to redistribute incomes from those who drive to those who don't.
   d. As a means to decrease the profits of the oil companies.

3. The marginal-revenue product is best described as
   a. the selling price of the last unit of output.
   b. the increment of total cost resulting from the use of an additional unit of input.
   c. the marginal-physical-product divided by the unit price of the product.
   d. the marginal-physical-product times the marginal revenue received from the sale of an extra unit of output.

4. As a way of dealing with pollution, the passage of legislation setting government standards
   a. is ineffective, because the standards are never enforced.
   b. is ineffective, because the standards are never strict enough.
   c. is sometimes effective, but doesn't necessarily produce the "proper" level of pollution.
   d. is effective, and our only realistic policy.

5. In "tight" housing markets, rent controls are often applied to hold the price of housing to a "reasonable" level. How does this policy affect the relative gains of tenants and landlords, and the allocative function of prices?
   a. It prevents tenants from gaining at the expense of landlords; the allocative function of prices is impaired.
   b. It prevents tenants from gaining at the expense of landlords; the allocative function of prices is not impaired.

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c. It prevents landlords from gaining at the expense of tenants; the allocative function of prices in impaired.
d. It prevents landlords from gaining at the expense of tenants; the allocative function of prices is not impaired.

6. If we in the U.S. really want a clean environment, then
a. all we have to do is say so.
b. we will have to pay for it in less of other things.
c. we will have to abandon our predominantly free-enterprise system.
d. each of us individually has to discipline himself not to be a polluter.

7. Changes in real wages are calculated by comparing changes in money wages with changes in the
a. rate of profits.
b. cost of living.
c. effort of the work.
d. tax rate.

8. A federal grant will be sought by New York City to test a plan for providing a discount fare on the city's rapid transit lines for persons 65 years of age or older. The discount fare would enable the city's aged to ride buses in off-peak hours for 10 cents instead of 35 cents. This could become a precedent for discounts for older people in other fields, such as cut-rate baseball or movie tickets. How would lower rapid transit fares at off-peak hours and lower prices for Yankee stadium seats on slack days change the real income of older persons who use these facilities?
a. Real income would rise.
b. Real income would fall.
c. Real income would remain the same.
d. The impact on the real income of old people cannot be determined from the information given.

9. Normal profits are
a. a cost because they represent payments necessary to keep the resources which the businessman owns in his own enterprise.
b. not a cost because they cannot be accurately calculated.
c. not a cost because they accrue to the entrepreneur.
d. not an economic cost because they are not necessary to acquire and retain entrepreneurial ability.

10. The basic determinants of the size of a person's income are
a. his bargaining power through unions or lobbies.
b. demand and supply for the factors of production he sells.
c. how hard he works, and what part of the country he lives in.
d. how smart he is, and what union he belongs to.

11. The number of coal miners declined from 450,000 in 1949 to 186,000 in 1960. With the assistance of the United Mine Workers of America, the hourly wages of mine workers almost doubled during this period. Which of the following set of economic factors is most consistent with the wage and employment data of the

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mining industry?

a. The demand for mining labor was inelastic and the supply of miners was reduced, leading to the higher wages.
b. While the supply of miners was increasing, the demand was increasing more rapidly, leading to the higher wages.
c. The demand for mining labor was elastic and therefore as wages increased the number of miners employed fell sharply.
d. The supply of miners was highly elastic and therefore a small reduction in demand for mining labor lead to a large reduction in employment.

12. The production possibilities (or transformation) curve illustrates the basic principle that

a. an economy's capacity to produce increases in proportion to its population size.
b. if all the resources of an economy are in use, more of one good can be produced only if less of another good is produced.
c. an economy will automatically seek that level of output at which all of its resources are employed.
d. the production of more of any one good will always require greater and greater sacrifices of other goods.

13. Which of the following tends to equalize wages among workers with similar skills?

a. Some workers place geographic preference over higher wages.
b. Lack of knowledge about job opportunities.
c. Labor is not perfectly mobile.
d. Highly competitive labor markets.

14. The federal minimum wage rate is $1.60 per hour in most employment that is covered by the law. An increase to $2.50 per hour was advocated at the recent Miami Beach Democratic convention. If this were enacted into a law a probably major effect would be

a. an increase in teenage unemployment.
b. an increase in total purchasing power of union workers.
c. a rise in the international value of the dollar.
d. increased foreign investment in the United States.

15. Suppose that the Barbers' Association of Florida (BAF) was designing legislation to increase the average earnings of their members. Which of the following proposals would be most likely to lead to large and permanent net income gains for those persons who are presently barbers in Florida?

a. Legislation fixing the minimum price of haircuts at $3, and instituting the free licensing of any graduate of a U.S. barber college.
b. Establishment of strict licensing requirements that would prevent any new entrants into the barbering business without the approval of BAF.
c. Legislation requiring that all employees in the barbering profession be paid double time for any hours worked beyond the normal 40-hour week.
d. Establishment of a $4 per hour minimum wage for barbers who are paid hourly wages.

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16. The number of persons seeking to obtain tickets to world series baseball games is nearly always greater than the number of available tickets (and seats) to the games. This is evidence that the price of the ticket is
    a. above the competitive equilibrium.
    b. at the competitive equilibrium, because the number of tickets bought equals the number sold.
    c. below the competitive equilibrium.
    d. above the competitive equilibrium if the demand is inelastic, but below if the demand is elastic.

17. Which of the following statements about incomes in the U.S. is not justified:
    a. There are no longer any significant geographical differences in per capita income in the U.S.
    b. Women who work earn substantially less on average than men in the same job.
    c. Earning power rises with age for skilled workers until a later age than for unskilled workers.
    d. Minority groups generally have low incomes.

18. Typically, nonshoppers are able to enjoy free parking in shopping centers. The basic economic reason is
    a. costs of excluding them are too high.
    b. shoppers do not pay for parking lots in the prices they pay for merchandise.
    c. the nonshopper is at other times a shopper.
    d. excess parking room inevitably exists in shopping centers.

19. If a person receives a higher wage than would be necessary to induce him to work, he is said to be receiving
    a. rent.
    b. profit.
    c. interest.
    d. marginal profit.

20. The Social Security Administration uses as the basis for its definition of poverty
    a. half the average family income of the U.S.
    b. three times the cost of minimal food requirements.
    c. twice the cost of minimal food and housing.
    d. a sample questionnaire asking people if they are poor.

21. If there are important external social benefits associated with the consumption of a product, it can be said that
    a. the supply curve for the product lies too far to the right to provide an efficient allocation of resources.
    b. the demand curve understates the relative importance of the product and resources are therefore underallocated in its production.
    c. special excise taxes should be levied on producers of the product.
    d. government should enact legislation to prohibit the production of the commodity.

22. "I point out to senators from industrial states like my own that a minimum wage increase would also give industry in our state some measure of protection, as we have too long suffered from the unfair competition based on substandard wages and other labor conditions in effect in certain areas of the country—primarily in the South." (Sen. Jacob Javits, *Congressional Record*, Feb. 23, 1966, p. 2692.) This statement essentially is
    a. incorrect, if the elasticity of demand for labor is greater in northern industrial states than in the South.
    b. correct, if the legislation increases wages, and therefore costs, more in the South than in the northern industrial states.
    c. incorrect, unless the minimum is set at a higher level in the South than in the northern industrial states.
    d. correct, because the supply of labor relative to the demand, is greater in the industrial north and therefore, the minimum will have less impact in that area.

23. Some people claim that discrimination against members of minority groups is a cause of poverty. The evidence appears to be that
    a. this is false—over all, minorities experience no more poverty than the general average.
    b. this is false—the poverty of minorities can be traced to other things, such as education, area of residence and so forth.
    c. this is true—there is greater poverty among minorities than can be explained by other factors.
    d. This is true for some minority groups, but not for blacks.

24. When economists say that pollution is fundamentally due to "externalities" they mean that
    a. people regard pollution as something "external" to them.
    b. individual decisions have unwanted effects on persons besides those directly involved.
    c. pollution is fundamentally an issue that is external to economists.
    d. pollution involves our external environment.

25. The demand for labor is
    a. a demand for workers per se.
    b. a demand for leisure per se.
    c. a demand for output per se.
    d. a derived demand based on the demand for final output.

26. Using economic efficiency as the criteria, which of the following is the most important justification for the government's providing some economic goods and services, rather that relying on private enterprise?
    a. It would be immoral and unreasonable to allow private persons to make a profit out of providing education, police protection, and the like.
    b. There is often no way to sell "public goods" in a private market, because their benefits can't be limited to persons who pay for them.
    c. It is important that goods and services be provided free of charge.
    d. The government must be a large element in the economy if it is to perform its economic stabilization functions adequately.

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27. Liquor licenses issued by state officials often can be resold at large profits. The basic reason is that
    a. demand for liquor is inelastic.
    b. licenses are originally sold in competitive markets.
    c. licenses are granted at prices below their true value.
    d. licenses can be used as collateral for bank loans.

28. A common property resource
    a. is owned by no one and therefore underutilized.
    b. is, at the same time, owned by no one and owned by everyone, and ends up being overutilized.
    c. only pertains to air and water.
    d. only pertains to water and scenery.

29. A bill recently introduced in Congress proposed to use part of the receipts from existing federal tax on gasoline to subsidize the building of rapid transit facilities around America's large cities. A correct economic justification for using this tax for this purpose is
    a. the tax-subsidy scheme transfers income from high-income groups (automobile owners) to low-income groups (rapid transit users).
    b. the tax-subsidy scheme reduces the demand for gasoline and increases the demand for subway and rail tickets.
    c. the tax-subsidy scheme would lower the net social cost of automobile use.
    d. the tax-subsidy scheme would raise the private cost of automobile use.

30. In a perfectly competitive economy which of the following might not explain why the wages of two employees differ?
    a. One has more schooling than the other.
    b. One is more skilled at producing the good than the other.
    c. One belongs to a union while the other doesn't.
    d. One works in a different geographic region from the other.

31. The economizing problem is essentially one of deciding how to make the best use of
    a. limited resources to satisfy limited wants
    b. unlimited resources to satisfy limited wants.
    c. limited resources to satisfy virtually unlimited wants.
    d. virtually unlimited resources to satisfy virtually unlimited wants.

32. The fundamental problem of positive economics is
    a. to achieve a more equitable distribution of money income in order to mitigate poverty.
    b. the scarcity of productive resources relative to material wants.
    c. the establishment of prices which accurately reflect the relative scarcities of products and resources.
    d. to establish a democratic political framework for the provision of social goods and services.

33. The best explanation of the recent rapid price rise for hospital and physicians' services is

a. the demand for medical care has increased at least partially because of increased government expenditure, while the supply of these services is very inelastic.
b. the supply of these services has decreased sharply, and since the demand is highly inelastic, prices have increased sharply.
c. the costs of inputs used to produce medical services have increased, leading to the increase in demand for medical services.
d. despite the government expenditures, the prices of medical services rose rapidly because of the highly inelastic demand.

34. The demand for a factor of production depends largely on
a. the supply of the factor
b. the supply of other factors of production
c. the demand for other factors of production
d. the demand for the product or products which it helps to produce.

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